

AD-A173 658 DAILY MAGNETOGRAMS FOR 1979 FROM THE AFGL NETWORK(U)
AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA D J KNECHT
22 FEB 85 AFGL-TR-85-0028

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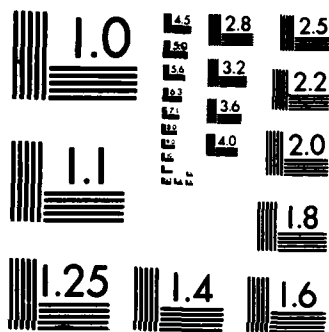
AD-A173 658 DAILY MAGNETOGRAMS FOR 1979 FROM THE AFGL NETWORK(U) 1/5
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A 10x10 grid of 100 small square images. The images show a smooth, continuous grayscale gradient across the entire grid. The color transitions from dark gray/black on the left side to light gray/white on the right side, with subtle variations in intensity across the rows and columns.



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AD-A173 658

AFGL-TR-85-0028
SPECIAL REPORTS, NO. 244

Daily Magnetograms for 1979 From
the AFGL Network

DAVID J. KNECHT



22 February 1985



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SPACE PHYSICS DIVISION

PROJECT 7601

AIR FORCE GEOPHYSICS LABORATORY

HANSCOM AFB, MA 01731

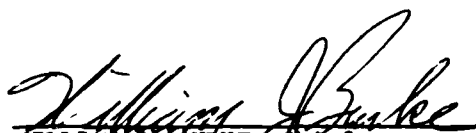


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FOR THE COMMANDER


WILLIAM J. BURKE, Chief
Space Plasmas and Fields Branch


RITA C. SAGALYN, Director
Space Physics Division

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REPORT DOCUMENTATION PAGE				
1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFGL-TR-85-0028 SR, No. 244		5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Air Force Geophysics Laboratory	6b. OFFICE SYMBOL (If applicable) PHG	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State and ZIP Code) Hanscom AFB Massachusetts 01731		7b. ADDRESS (City, State and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State and ZIP Code)		10. SOURCE OF FUNDING NOS		
		PROGRAM ELEMENT NO	PROJECT NO	TASK NO
		62101F	7601	18
11. TITLE (Include Security Classification) Daily Magnetograms for 1979 from the AFGL Network		WORK UNIT NO 01		
12. PERSONAL AUTHOR(S) David J. Knecht				
13a. TYPE OF REPORT Inhouse	13b. TIME COVERED FROM TO	14. DATE OF REPORT (Yr., Mo., Day) 1985 February 22	15. PAGE COUNT 418	
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES				
FIELD	GROUP	SUB. GR.		
8	14	2		
3	2	11		
18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		Magnetograms Magnetic storms Variations Magnetic field Substorms Geomagnetism Network Ground measurements		
19. ABSTRACT (Continue on reverse if necessary and identify by block number) <p>A stacked plot of 24-hour magnetograms from the AFGL Magnetometer Network is presented for each UT day of the year 1979. Each plot, on a single page, contains all 21 traces from the fluxgate magnetometers of the network (three components at seven stations). The data plotted are 2-min averages of the 1-min edited data set that has been provided to the World Data Center. To aid in comparisons between days, the magnetograms are plotted with a fixed amplitude scale that preserves a resolution of one or two nanoteslas. For the 10 percent of all days that are more active, the plots have been repeated at a reduced amplitude. These magnetograms serve to assess the general character of magnetic activity, identify events for scientific study, and indicate the coverage and quality of the data available from the World Data Center.</p>				
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT <input checked="" type="checkbox"/> DTIC USERS <input type="checkbox"/>		21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL David J. Knecht		22b. TELEPHONE NUMBER (Include Area Code) (617) 861-2433	22c. OFFICE SYMBOL PHG	

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Preface

This volume of magnetograms from the AFGL Magnetometer Network is the second in what is intended to be a set of six yearly volumes covering the years 1978 through 1983. Descriptive material needed to explain the magnetograms is repeated so each volume can be used independently.

These volumes are dedicated to the memory of Robert W. Crowe, who, as a high-school student, carried out much of the computer work that produced the edited data shown in these plots and who lost his life in October 1982 while the work was under way.

Many other persons have also contributed greatly to this effort. The project, which required reading more than 1200 input data tapes, writing more than 4500 edited-data tapes, and making and assembling more than 6500 separate plots for these volumes, was made possible by the dedicated efforts of a group of college and high-school students. Armand Paboojian supervised and personally undertook much of the production of the edited data base. Ric Laperriere, Stephen Morris, Catherine Whittaker, Glenn Ellis, and Ara Topjian also contributed many hours to this work. Fr. John F. Devane, S. J., directed the contractual effort of Boston College under which most of the students worked. Ric Laperriere carried out a large fraction of the production runs that produced the final plots. These generous contributions are gratefully acknowledged.

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Daily Magnetograms for 1979 From the AFGL Network

1. INTRODUCTION

From mid-1976 through 1983, the AFGL Magnetometer Network made continuous measurements of the surface magnetic field at seven stations spanning the contiguous United States. An edited data base has been produced for the period 1978-1983; it consists of three-component measurements of the field at the seven network stations by fluxgate magnetometers sampled once per second. A subset of these data, consisting of 1-min average values in the standard IMS format, is available to the scientific community through the World Data Center.

This report, one of a series of yearly volumes, presents the 1-min subset of data for the year 1979 in the form of stacked daily magnetograms, one day per page. The anticipated uses of these plots include: (1) discovering the overall pattern of magnetic activity across the United States for any day, (2) identifying events for scientific study, and (3) indicating the coverage and quality of the data available from the World Data Center.

For the basic set of 365 daily plots, the question of amplitude scale was resolved in favor of a constant value for all plots to facilitate comparison when scanning over many pages. However, for about 10 percent of all days this choice causes traces to be offscale or confused, so for these days the plot is repeated on a less sensitive scale in a subsequent section of supplemental plots.

(Received for publication 14 February 1985)

2. DESCRIPTION OF THE NETWORK

The AFGL Magnetometer Network consisted of seven remote instrumented stations at the locations shown in Figure 1 and listed in Table 1. The five northern stations form a line at approximately 55 degrees cgm latitude, while the two southern stations are both at about 40 degrees cgm latitude.

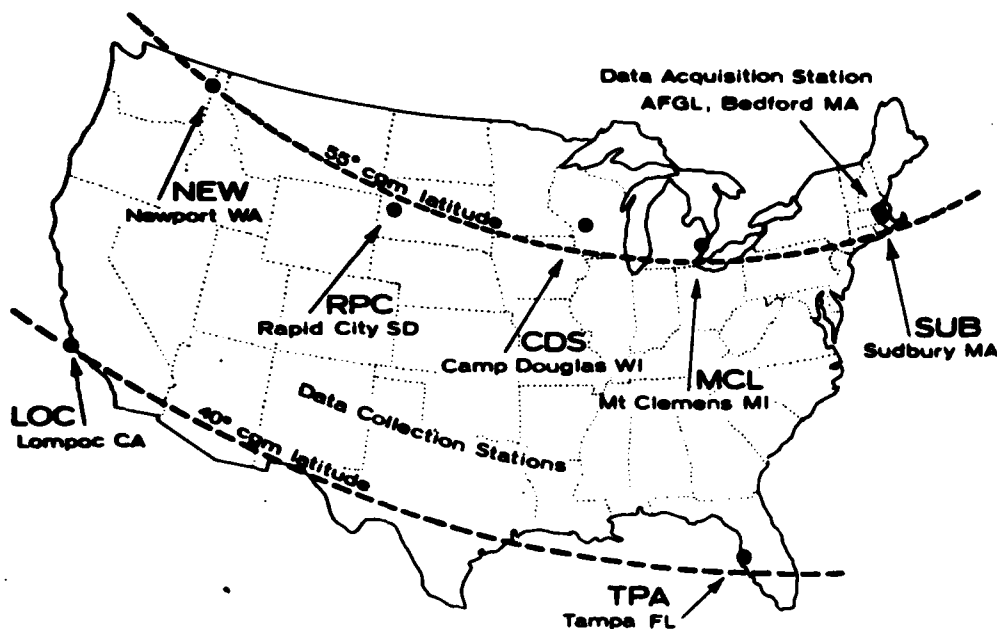


Figure 1. Map of the AFGL Magnetometer Network

The instrumentation at all sites was essentially identical. The instrument which made the measurements presented here is a three-component fluxgate magnetometer built by the University of California at Los Angeles. (Data from a second instrument, an induction-coil magnetometer, is not discussed). The fluxgate magnetometer has a basic analog (fine-scale) range of -64 to +64 nanoteslas; it is kept onscale by applying to the sensor a precise (coarse-scale) nulling field of an integral multiple of 64 nT to cover the full range of approximately -65,000 to +65,000 nT. The fine-scale output is digitized by an 11-bit analog-to-digital converter, with the least significant bit representing 1/16 nT. The instrument was sampled once per second.

Data from all stations were returned to a data-acquisition station at AFGL via a single dedicated voice-grade circuit made up largely of ordinary phone lines and

having a branch to each of the stations. A polling signal sent from the data-acquisition station synchronized all stations to within several milliseconds accuracy by incorporating compensation for propagation delays. Data collected at each station during any 10-sec sampling interval were transmitted in a block at some point during the next interval. A forward-error-correcting scheme was used to eliminate transmission errors. Data were received, compressed, formatted, and archived on magnetic tape by a dedicated minicomputer. Subsequently, several series of edited-data tapes were produced from the archive tapes, using the same minicomputer, as described in the following section.

Table 1. Locations of the Data-Collection Stations

Station Symbol and Name (post office)	Corrected Geomagnetic Coordinates		Graphic Coordinates		Government Installation
	N Lat	E Long	N Lat	E Long	
NEW Newport WA	55.2	299.6	48.3	117.1	USGS Newport Observatory
RPC Rapid City SD	54.1	317.3	44.2	103.1	Ellsworth Air Force Base
CDS Camp Douglas WI	56.3	334.2	44.0	90.3	Volk Field (Natl. Guard Base)
MCL Mount Clemens MI	55.8	344.8	42.6	82.9	Selfridge Air Natl. Guard Base
SUB Sudbury MA	55.8	1.9	42.2	71.3	Army Natick Laboratory Annex
LOC Lompoc CA	40.2	300.6	34.7	120.6	Vandenberg Air Force Base
TPA Tampa FL	40.7	344.9	27.8	82.5	MacDill Air Force Base

3. EDITING OF THE DATA

The content of the archive data tapes is the series of successive data transmissions, recorded with minimal processing at the time of reception. These raw tapes are somewhat inconvenient for general use, since they reflect network malfunctions of many kinds, include other scientific and housekeeping data, and use a complex format for economy. An edited version, containing only the fluxgate measurements, was desired, and an automated procedure for processing these tapes was developed.

The editing process was designed to correct for a number of errors likely (and often known) to occur in the data because of various equipment malfunctions. The basis for detecting and assessing the errors was a set of redundancy and consistency checks built into or inherent in the data. The faults corrected (in most cases by

discarding the faulty data) included (1) magnetometer outputs differing from a nominal quiet-time value by more than 2048 nT, (2) transmissions not confirmed to have come from the correct station, and (3) incorrect time values associated with transmissions. At the same time, the data were organized by time interval, station, and component, with missing data filled with blanks.

It may be noted that the faults addressed in editing are almost exclusively those of the collection and transmission system; the only criterion placed on the magnetometer output was that it be reasonably close to an expected value. One reason for this is that rigorous criteria for assessing the correctness of the magnetometer data are so lacking that an automated procedure is not possible. But another reason is that, for many purposes, the usefulness of the data is only slightly (or not at all) diminished by the most common malfunctions. Therefore, most failures experienced with the magnetometers are still reflected in the edited data. Since the stations were unattended, a number of days often elapsed before a malfunction was corrected, and caution is necessary in using these data. Some specific guidance is provided in Section 6 below.

4. DESCRIPTION OF THE PLOTS

The basic set of plots is presented in Section 7. It includes, for each day in the year, daily magnetograms for all three components of the seven network stations, a total of 21 traces. These are grouped into three panels by component, in the order X, Y, Z from top to bottom of the page, where X is magnetic north, Y is magnetic east, and Z is vertically downward. This alignment was only approximate, and during the early years X and Y were often rotated slightly about Z to keep the Y component slightly positive. To facilitate comparisons between adjacent stations, the traces within each panel are further ordered by plotting the 55-degree stations first, west to east, followed by the two 40-degree stations, west to east.

For the basic set of plots a common fixed amplitude scale was selected for ease in comparing between days. The value 40 nT per major division was chosen because it kept about 90 percent of the plots onscale. A major division is the distance between the dotted baselines for adjacent traces. One minor division represents 10 nT, and a resolution of about one or two nT is preserved in the traces. For active days on which the traces go offscale or become confused by overlap, a supplementary set of plots, using a scale of 160 or 400 nT per major division is presented in Section 8. A small solid triangle following the date on the basic plot in Section 7 indicates that a supplementary plot has been provided.

Each trace is labeled at the left with a three-letter station code. Its absolute calibration is provided by the corresponding value (in nT) of the horizontal dotted

baseline. This value, appearing just below the station code, is the 24-hour mean of the data plotted, rounded to the nearest nanotesla. The station code and baseline value are omitted whenever all data points in a trace are blanks or, very rarely, when a badly malfunctioning trace has been eliminated to avoid obscuring good traces. The presence of the label usually (but not reliably) indicates that the trace is not completely blank.

The time scale covers the 24-hour UT day, with 1-hour and 10-min subdivisions. The edited data base consists of one value per minute (good datum or blank) for each of the 21 traces, but since this sampling rate exceeds the resolution possible on the page, 2-min averages were plotted instead. This results in 720 points per day, and since the full-scale length of the time axis is roughly 144 mm, the point-to-point spacing is about 0.2 mm (0.008 in.).

The date is printed at the lower left corner of each plot, first in the form day-of-month, month, year. It is repeated, in parentheses, in the form year (followed by a period) and day-of-year. As noted above, a solid triangle after the final parenthesis indicates the presence of a supplementary plot in Section 8.

5. METHOD OF PRODUCING THE PLOTS

The plots were generated by the network minicomputer (Varian model V72, vintage 1972) with 7-track tape units to read input data. The automated plot program was written in FORTRAN and incorporated Varian Dataplot software. The output device was a Tektronix type 4014 terminal equipped with a type 4631 hardcopy unit. With this equipment the plot is first drawn by an electron beam on the screen of the CRT (a storage device) and then copied to the hardcopy unit by a second beam which scans the screen; a third beam in the hardcopy unit writes the plot onto a dry-silver heat-developed paper. The three panels for each day of data were produced separately and then trimmed and taped together by hand, using overlapping registration marks for alignment. Since the image on the dry-silver paper deteriorates rapidly, the assembled plots were then copied, with a reduction to 74 percent of original size, on an IBM series III model 20 photocopier. These copies were furnished for the printer to use without further reduction.

The linearity and accuracy afforded by this method is sufficient for most purposes but does not equal that achievable by producing all three panels at once on a good electrostatic plotter and photoreducing the plots in the printshop. Some care may therefore be necessary in attempting precise measurements from these plots.

6. CAUTIONS ABOUT USE OF THE PLOTS

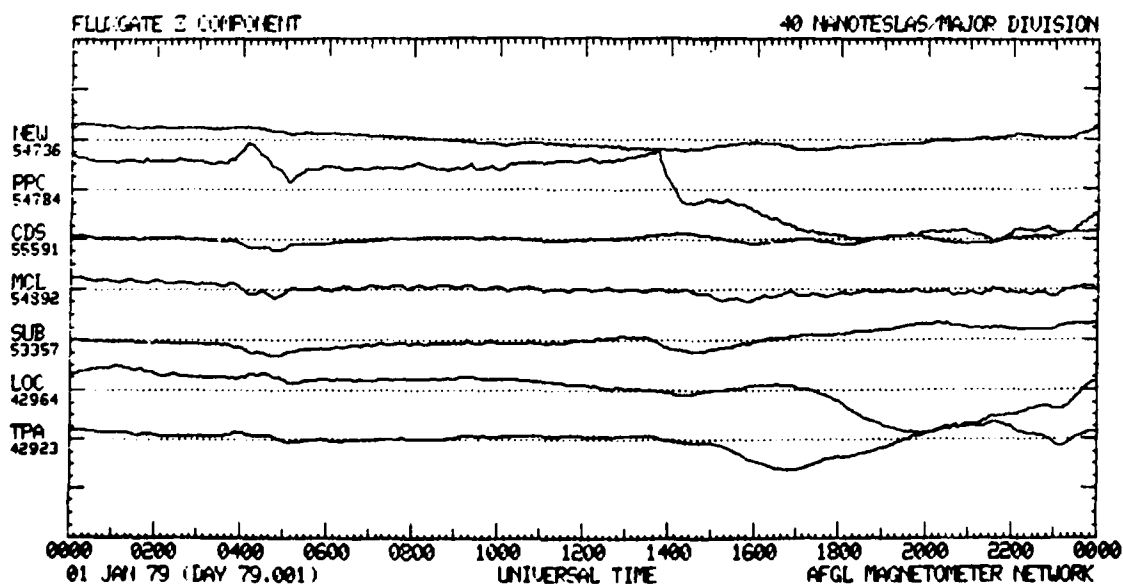
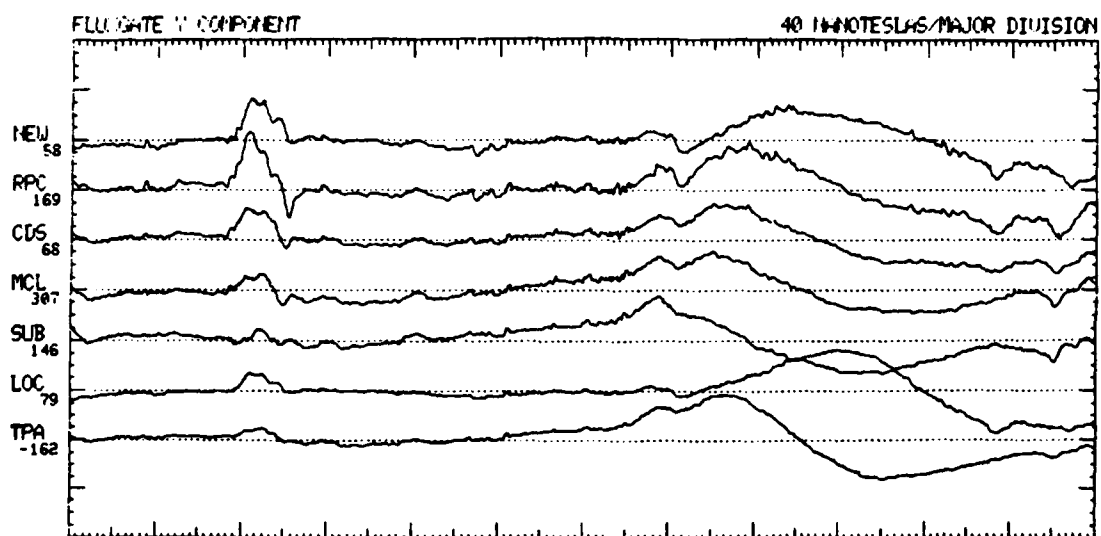
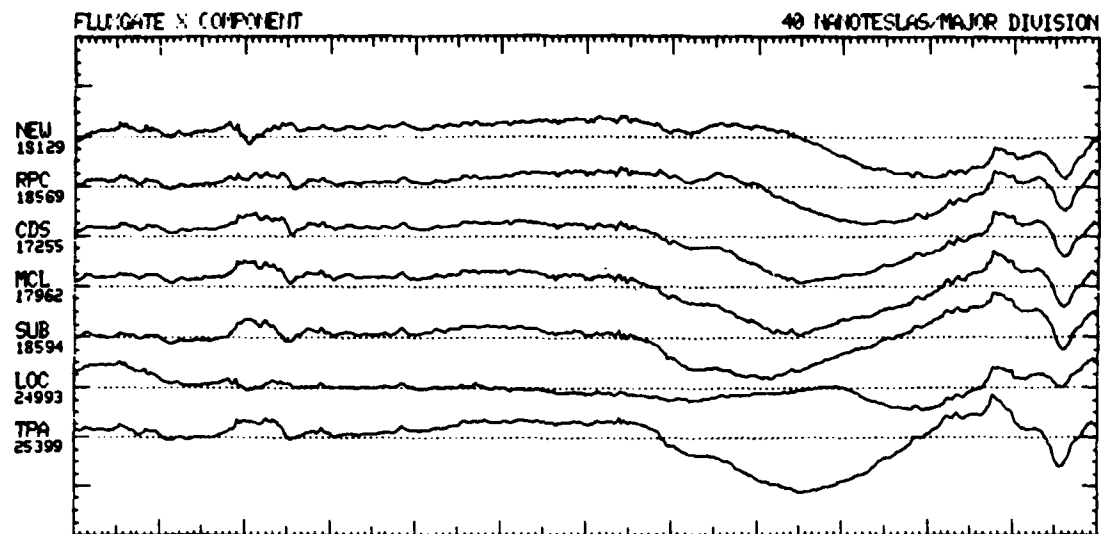
The following brief comment on some common faults in the data may be useful. Examples are given by a reference in parentheses to a plot which exhibits the particular fault described.

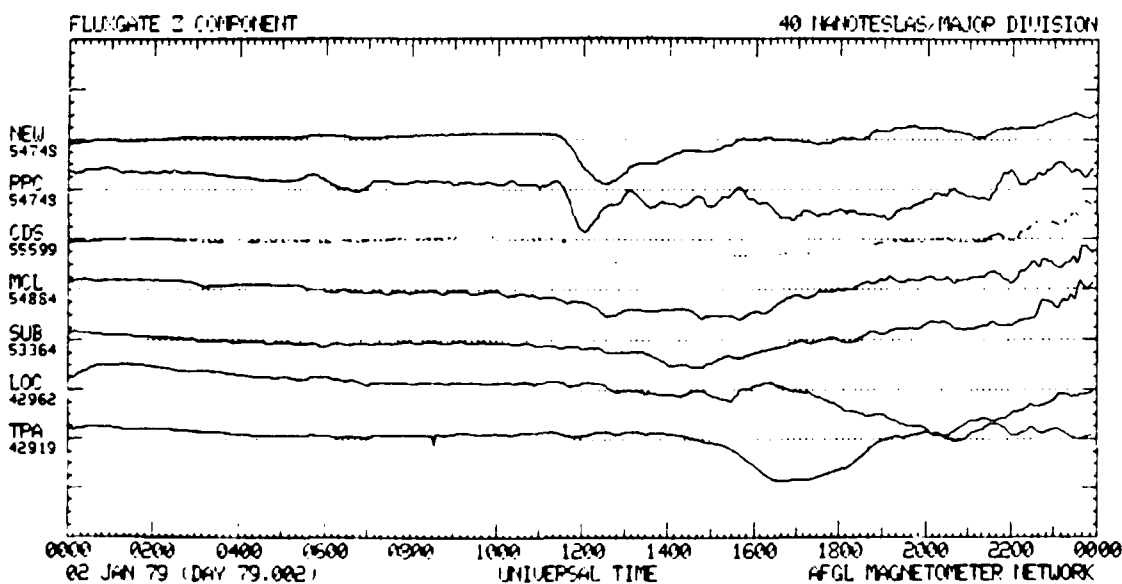
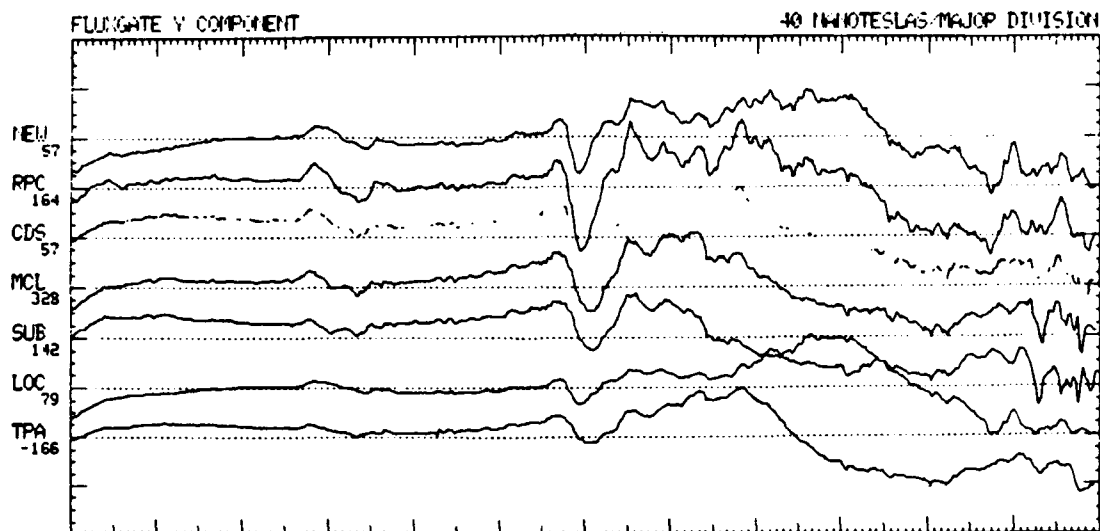
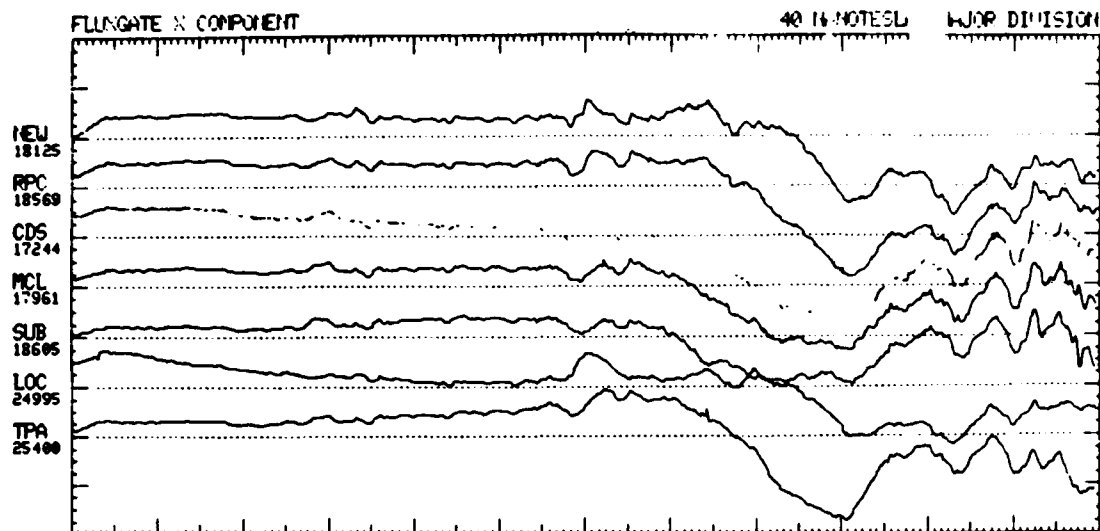
Two problems were caused by the plotting equipment: (1) Some trace labels are occasionally shifted into the middle of a panel, to the right of their proper location (04 January). This problem was ignored because it was not easy to cure and caused no serious harm. (2) The least significant digit of the baseline value for a trace is occasionally omitted (TPA-X trace, 11 January). Since baseline values are all right-justified, the absence of the final digit can be seen, but the value will be uncertain by 5 nT. Again, the harm caused was not enough to justify the cost of solving it.

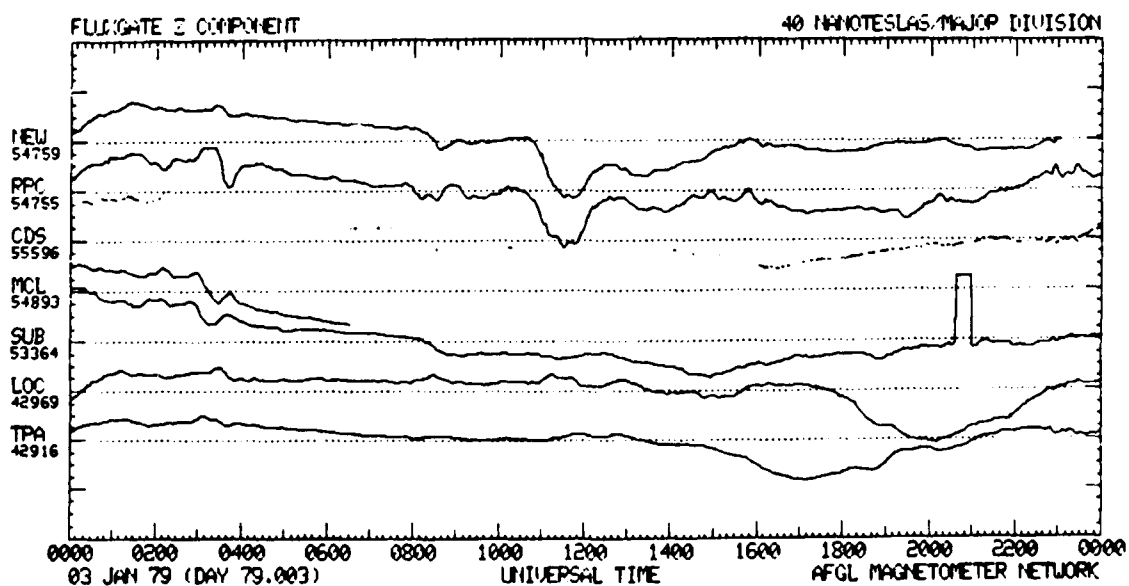
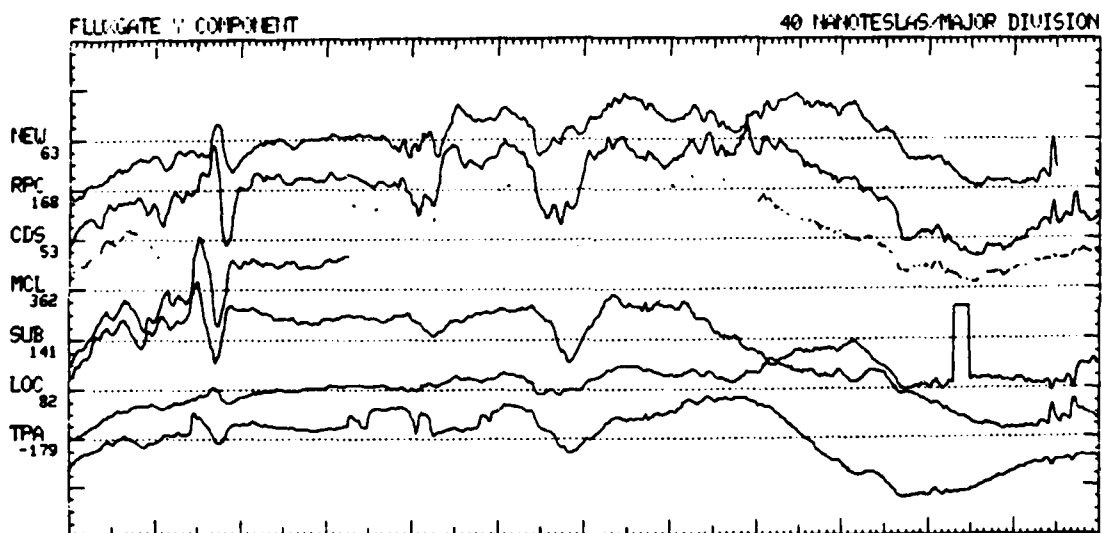
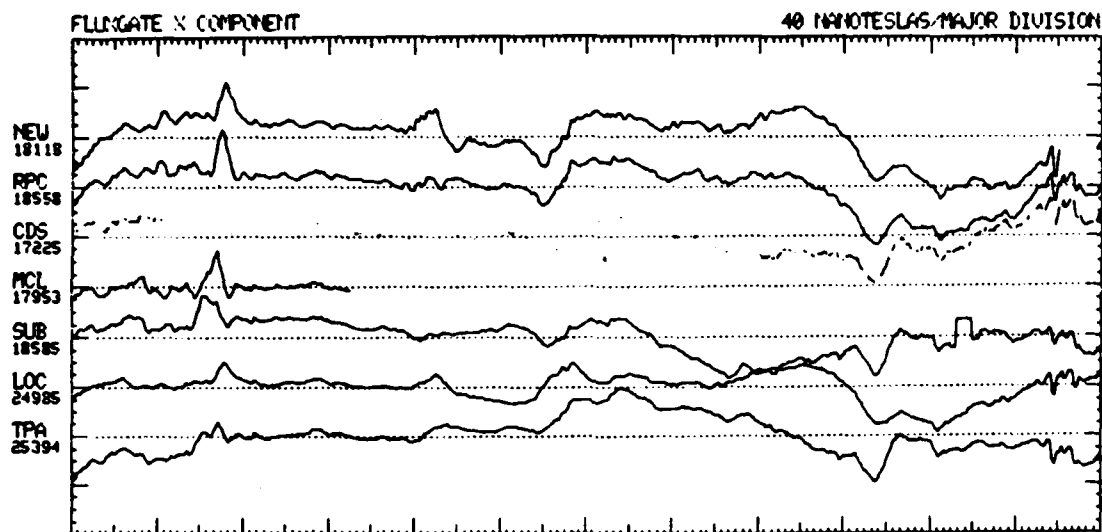
As noted earlier, data from malfunctioning magnetometers were not excluded unless they differed greatly from expected values. Usually, the integrity of the data can be adequately assessed by comparing any trace with those of adjacent stations and by observing its behavior over an extended interval. Five common malfunctions are these: (1) An instrument which does not change range properly may exhibit sudden positive or negative jumps of 64 nT, the amount of one coarse-scale step (TPA-X trace, 17 February). (2) Some failures, such as a data-system bit that fails to turn on or off, cause smaller jumps (note the jumps of about 16 nT in the TPA-Y trace, 17 January). (3) Some failures cause a trace to exhibit noise which may be large (TPA-X trace, 10 June) or small (SUB-Z trace, 28-29 May). (4) Failure of the fine-scale output causes a trace to show no activity except an occasional range-change jump of 64 nT (all RPC traces, 02 February). (5) Failure of the temperature-compensating circuitry makes the output very dependent on electronics temperature; the trace will then reflect the regular cycles of the thermostatically controlled trailer temperature (MCL-Z trace, 21-22 January). (6) Other severe malfunctions can cause wild drifting (RPC-Z trace, 11 and 13 January), large noise spikes (NEW-Z trace, 04 January), or bursts (TPA-Z trace, 08 January). All these faults can normally be detected in the context of the stacked plots.

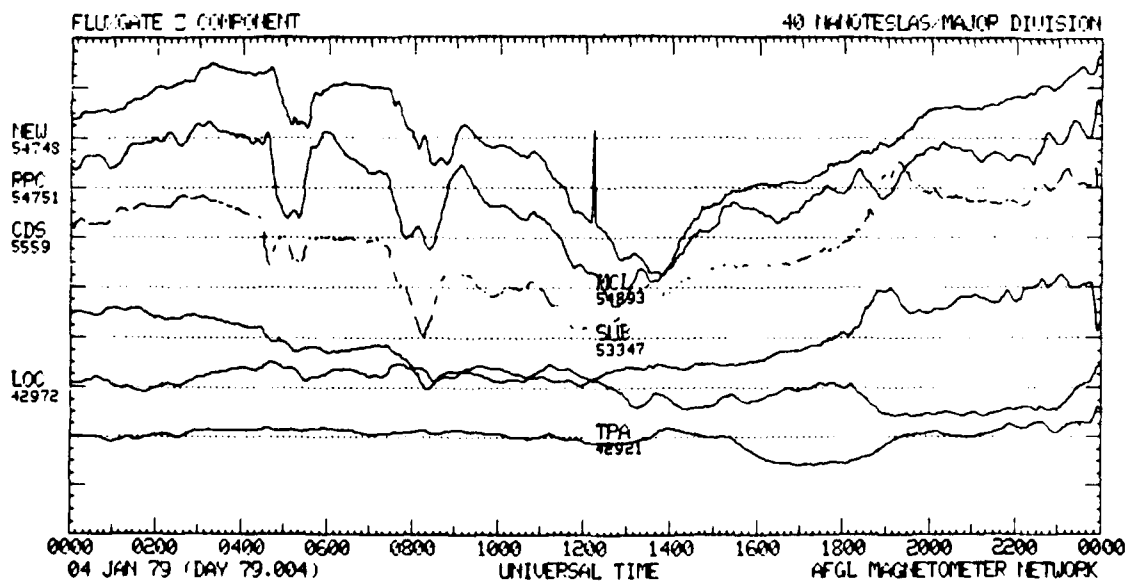
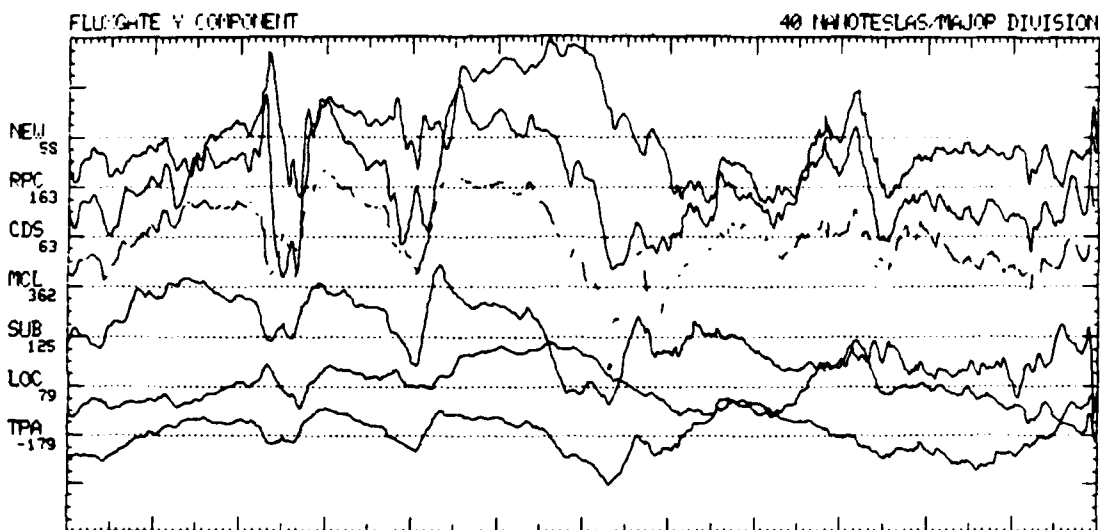
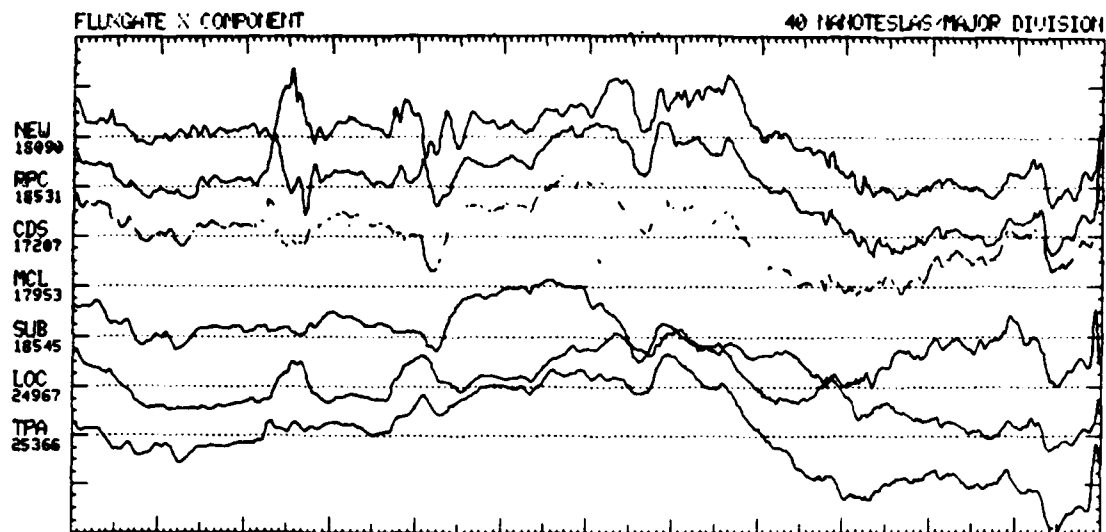
7. BASIC PLOTS AT STANDARD AMPLITUDE

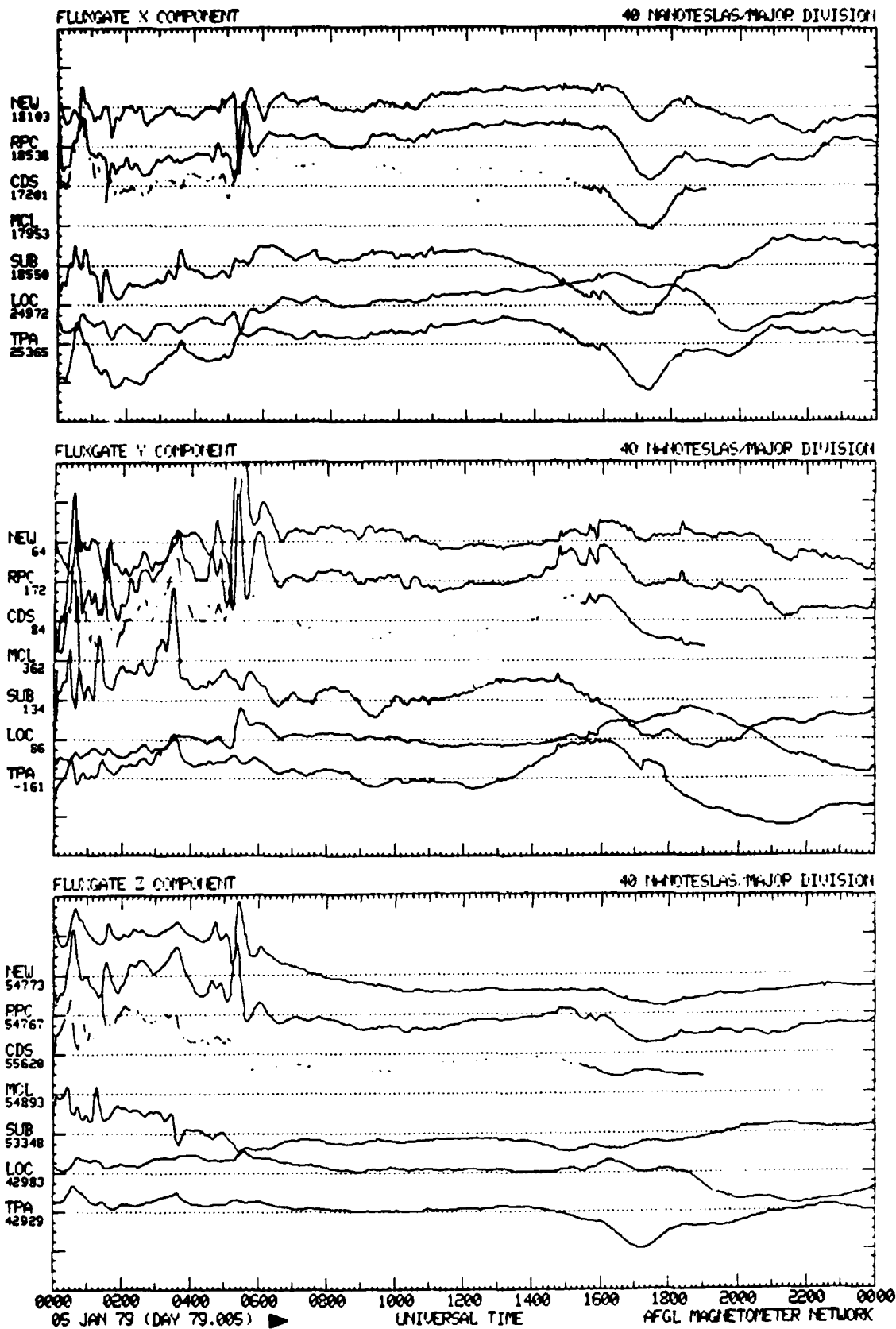
This section presents one stacked-magnetogram plot for each day of 1979, using the standard amplitude scale of 40 nT per major division.

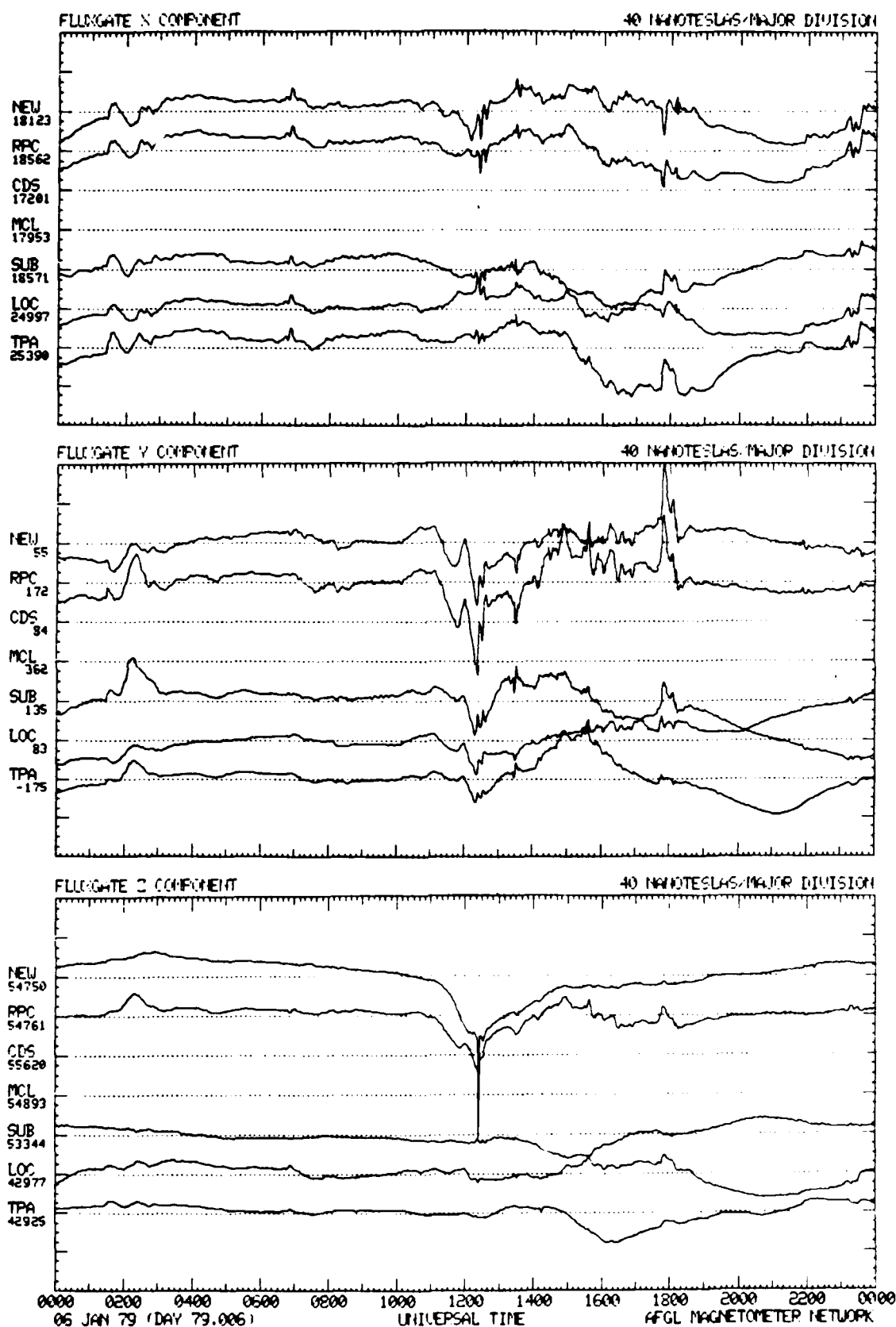


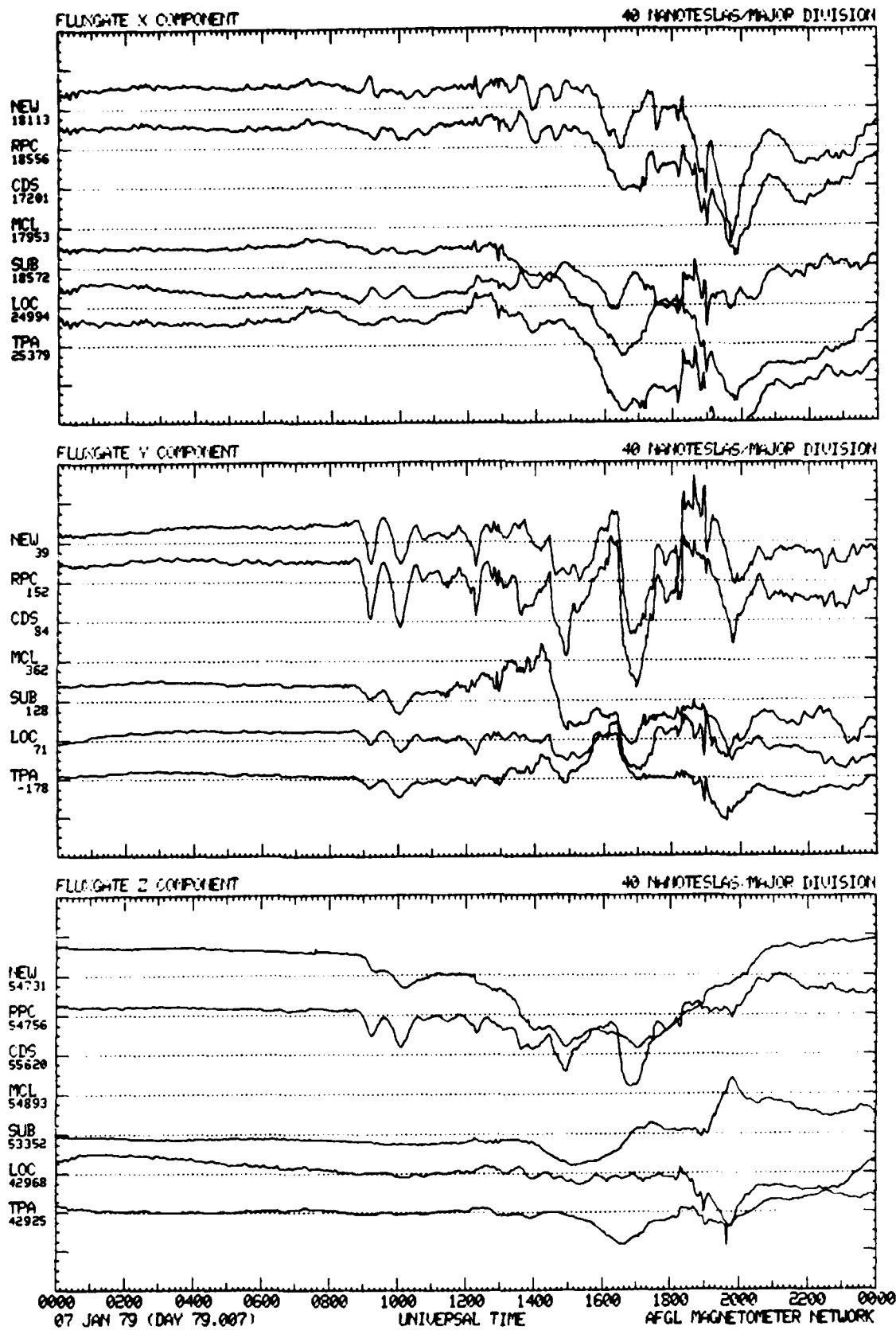


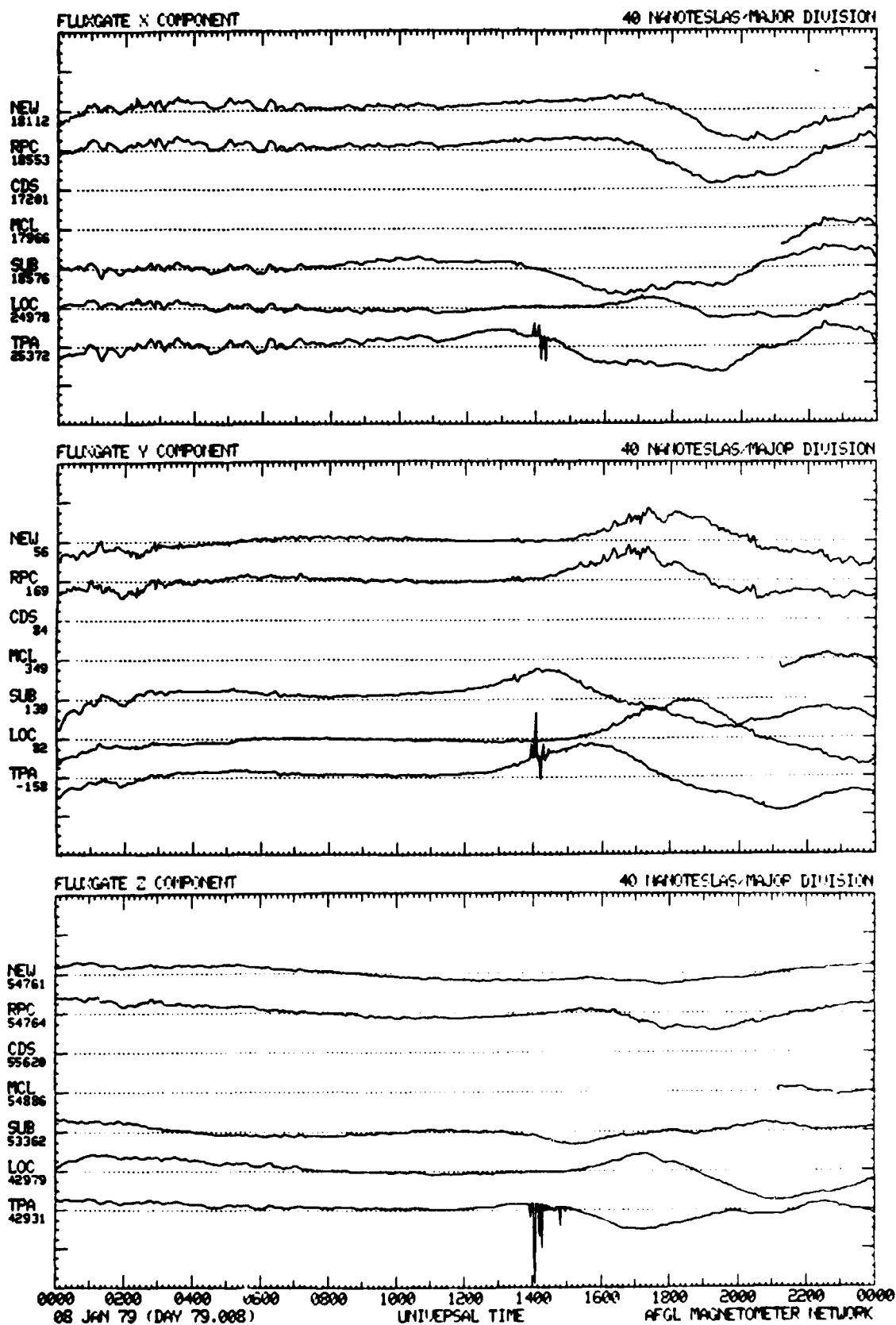


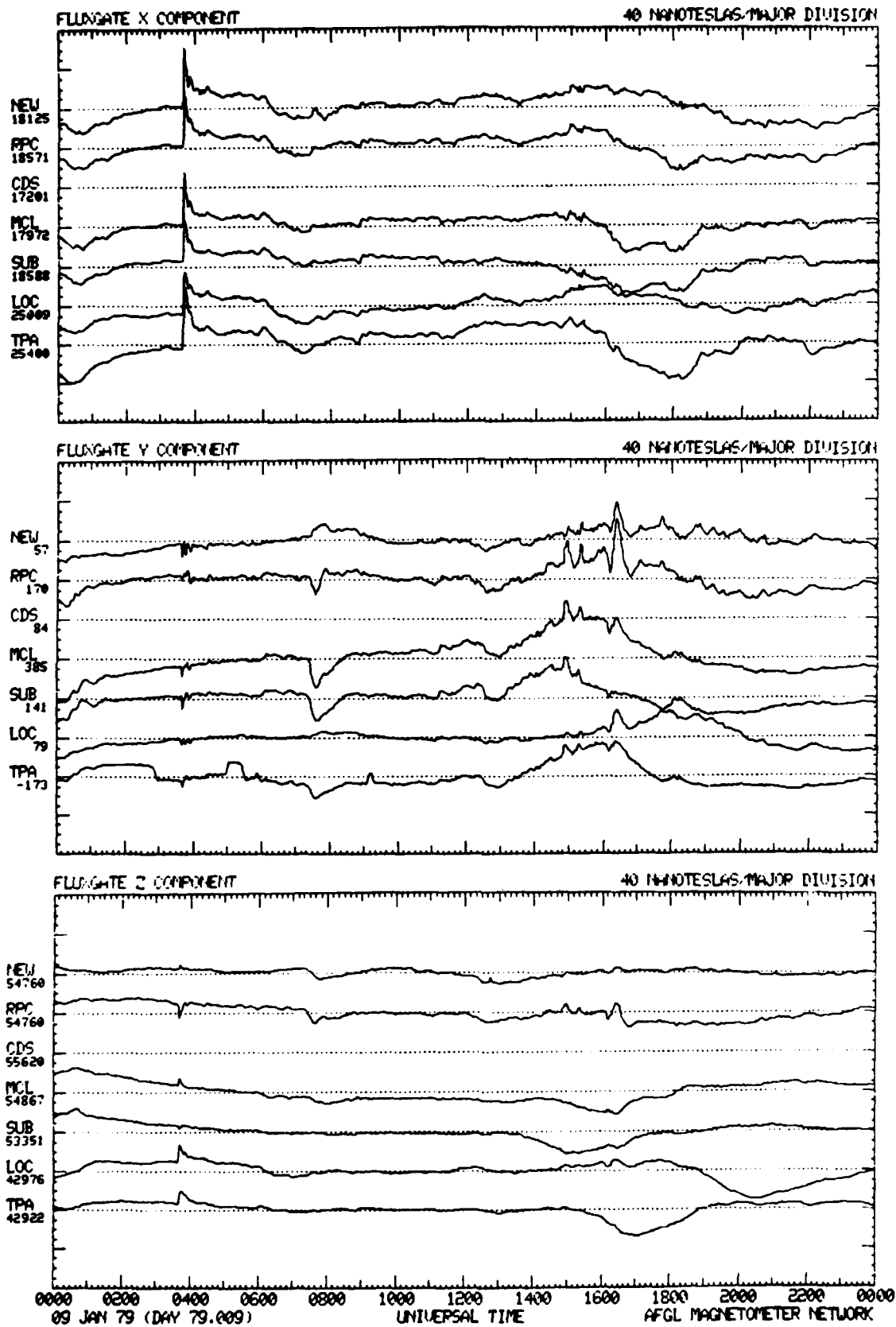


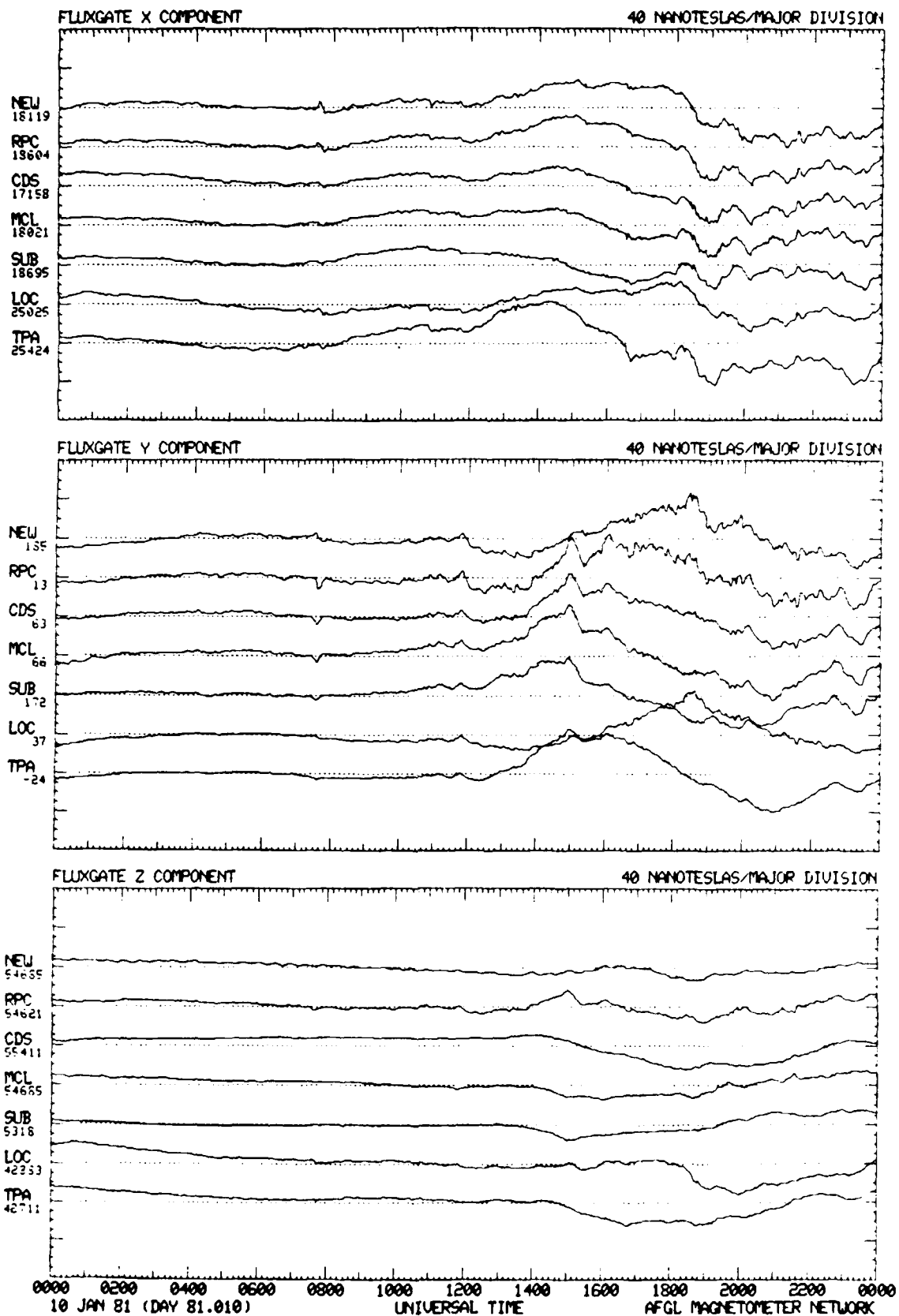


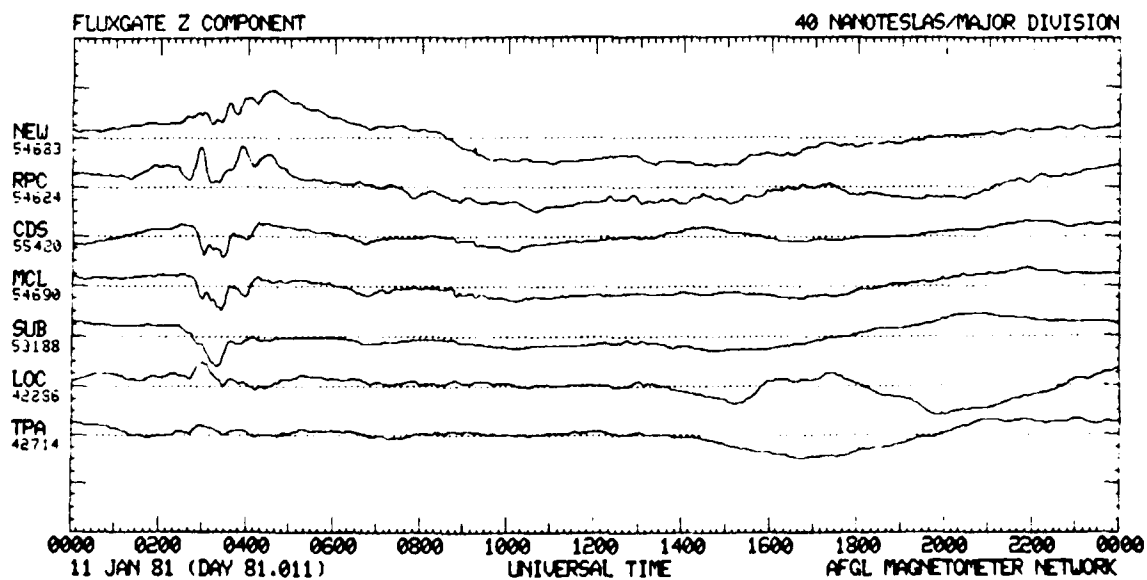
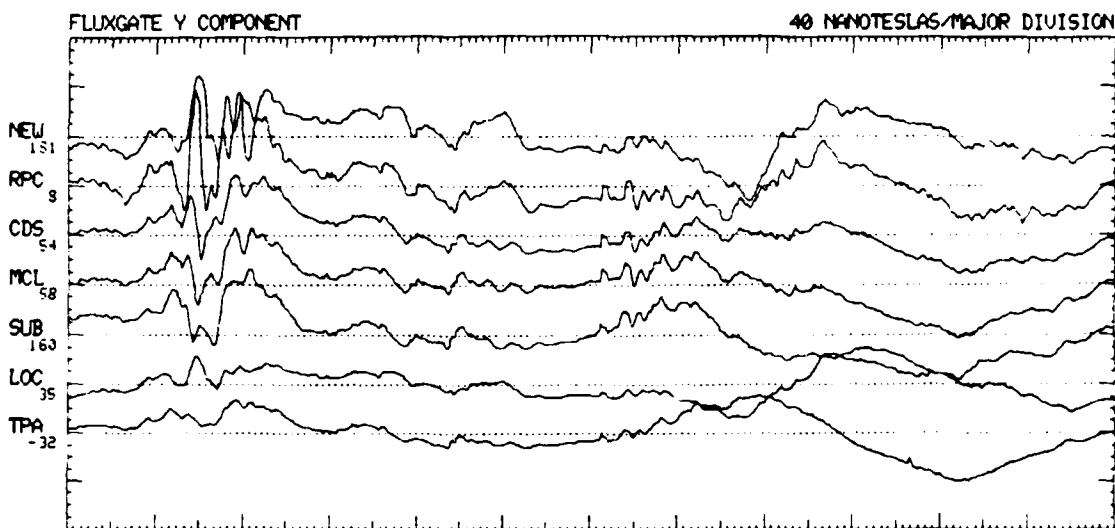
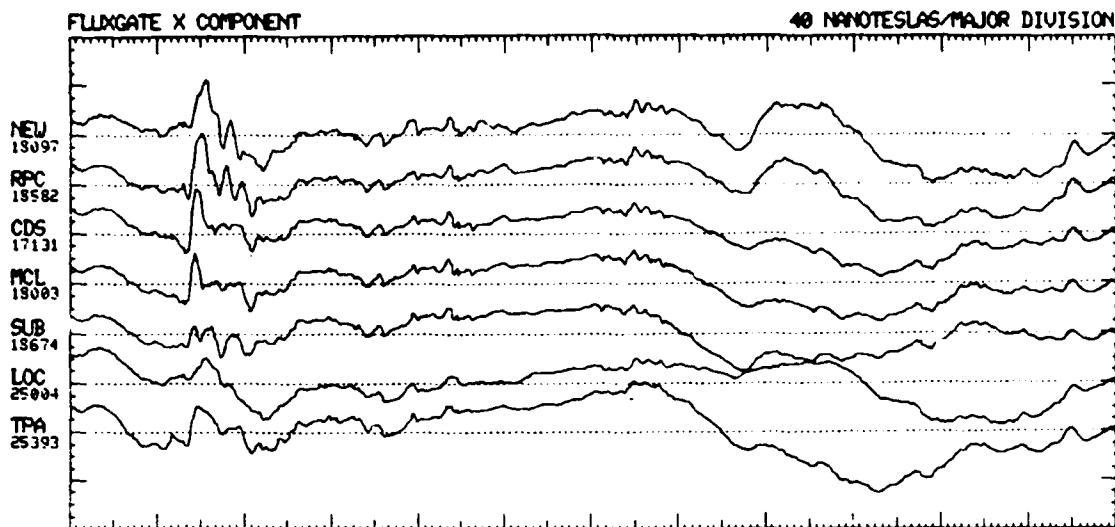


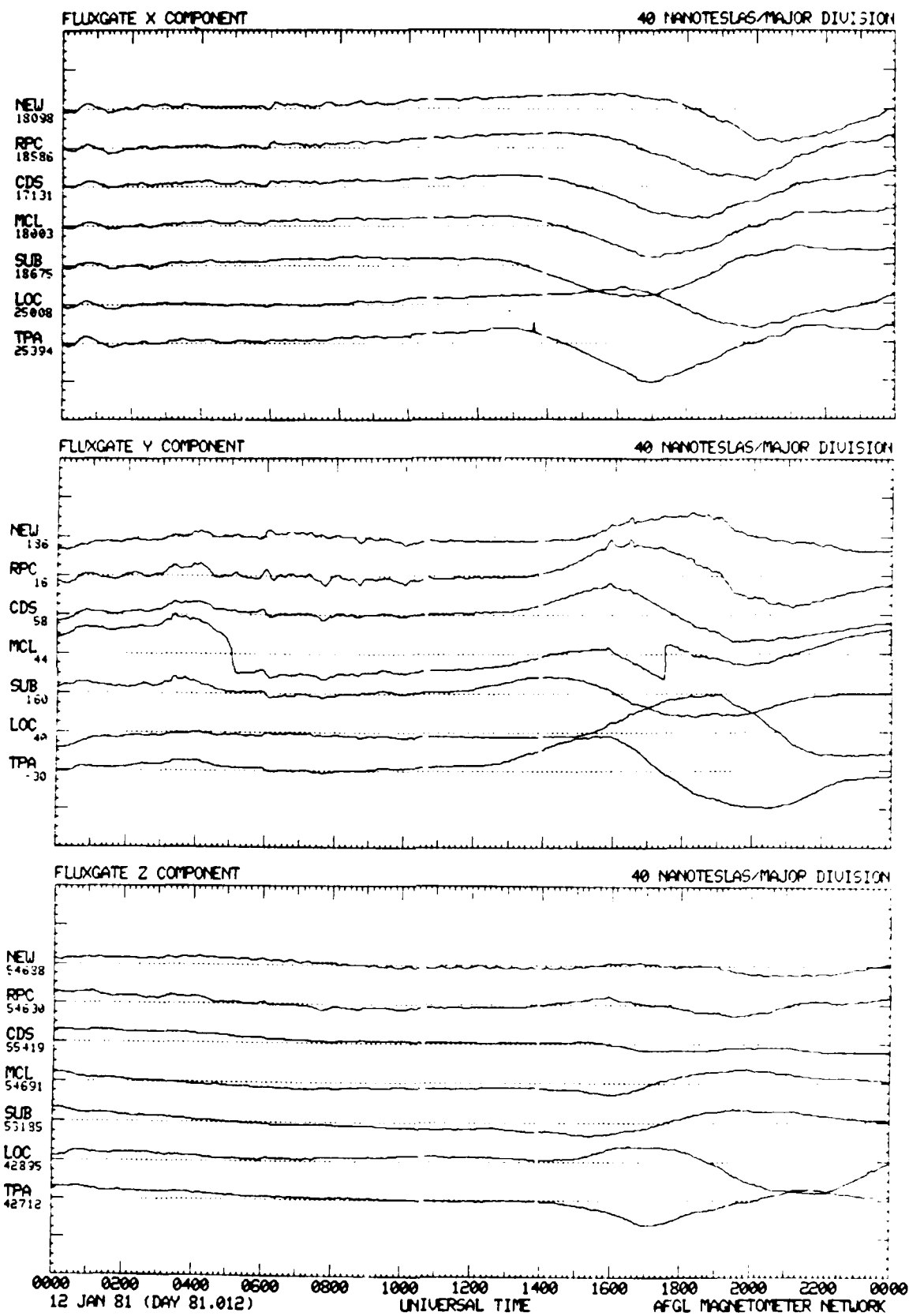


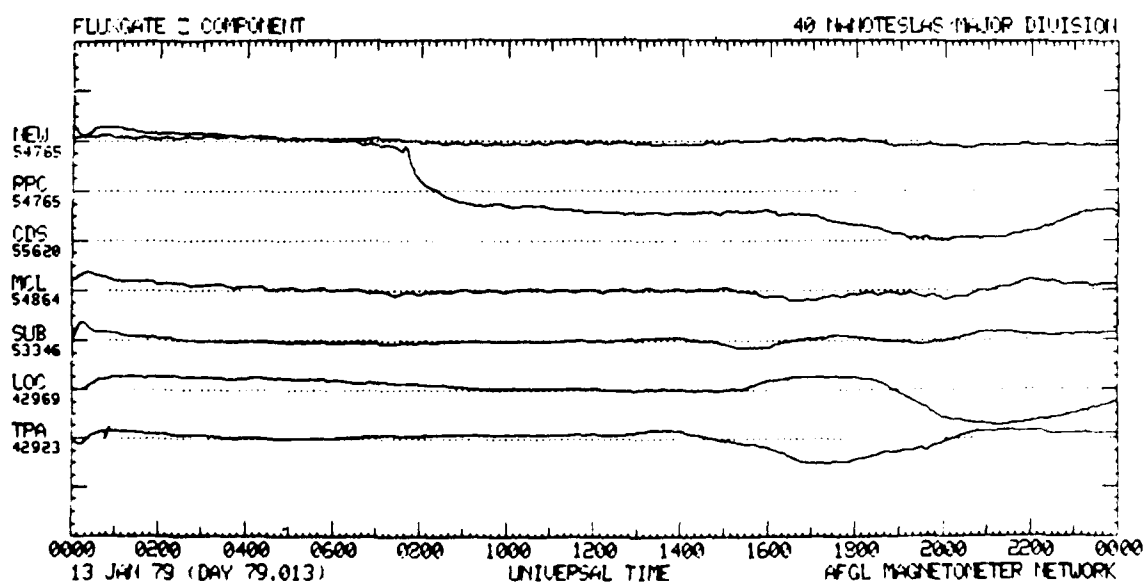
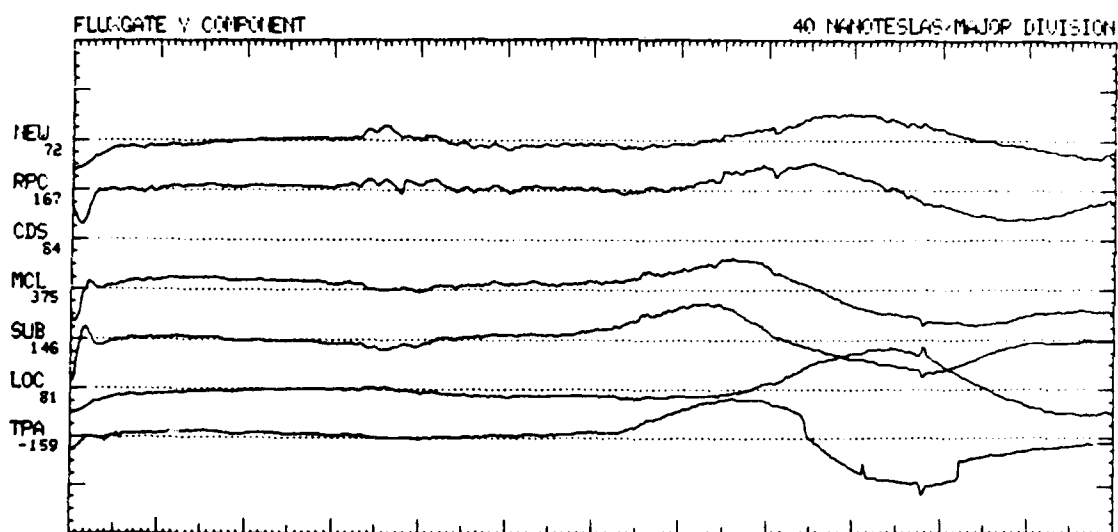
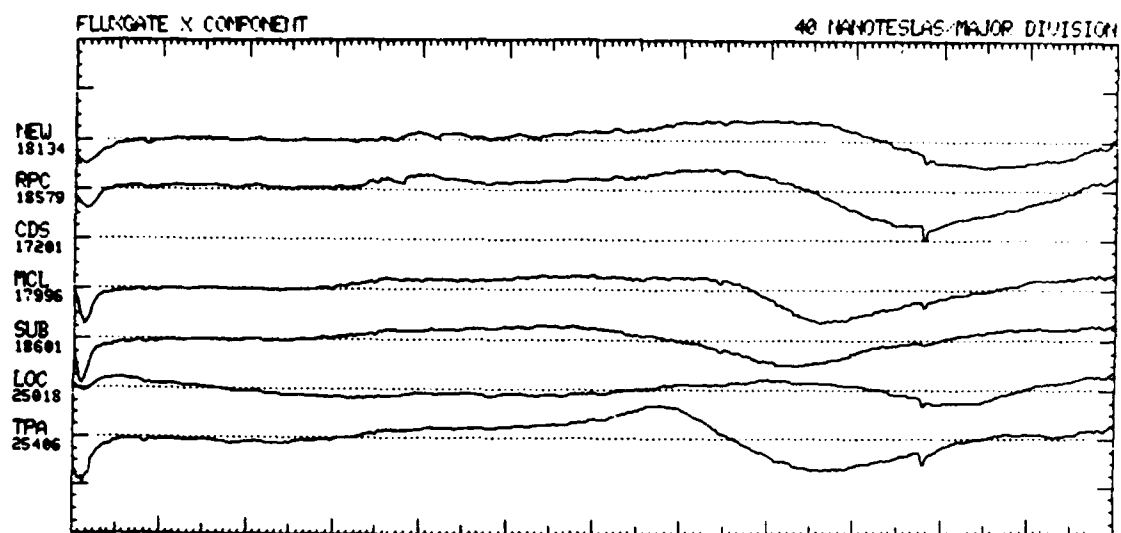


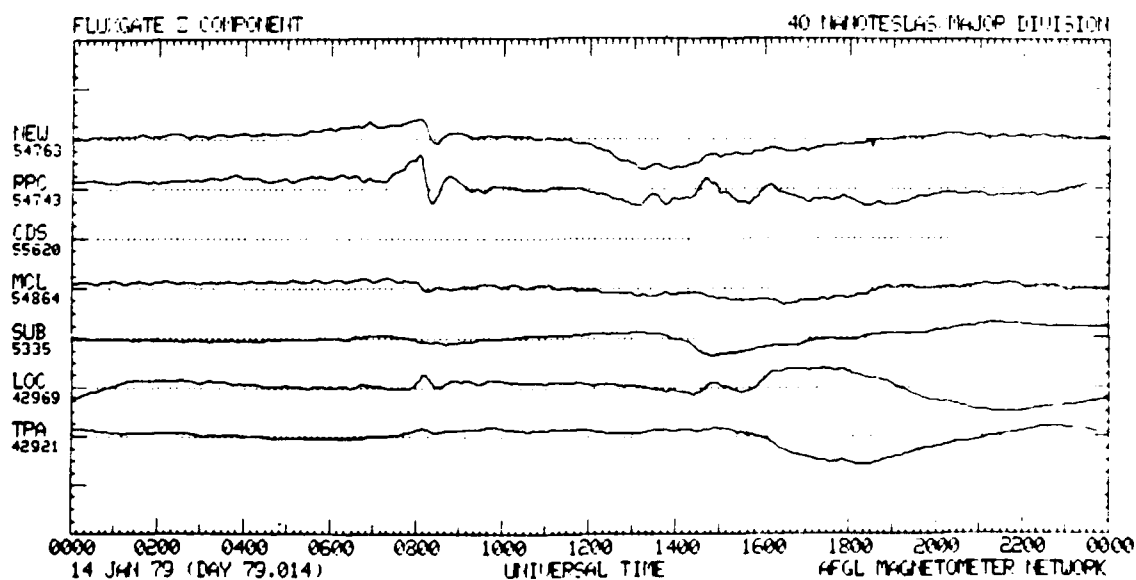
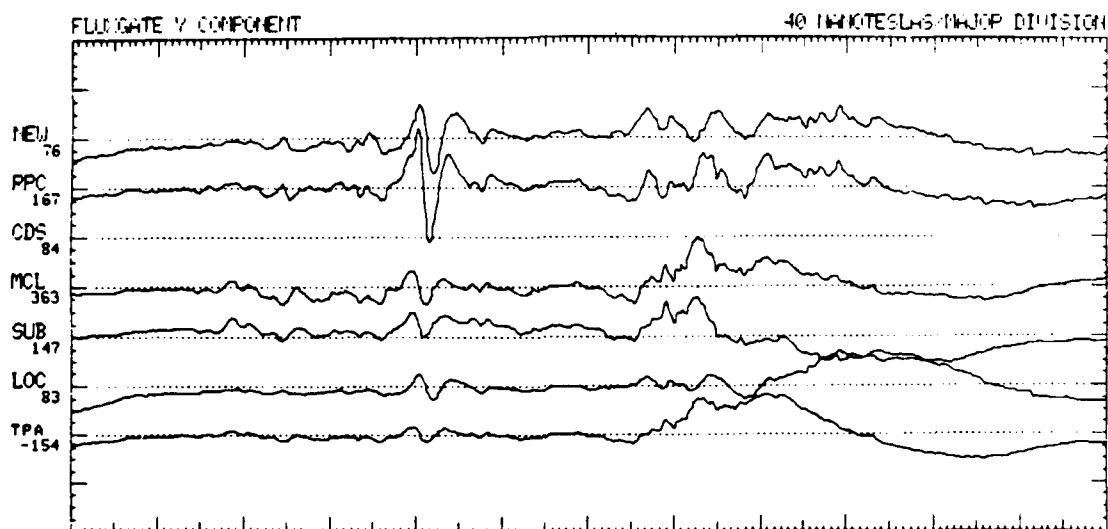
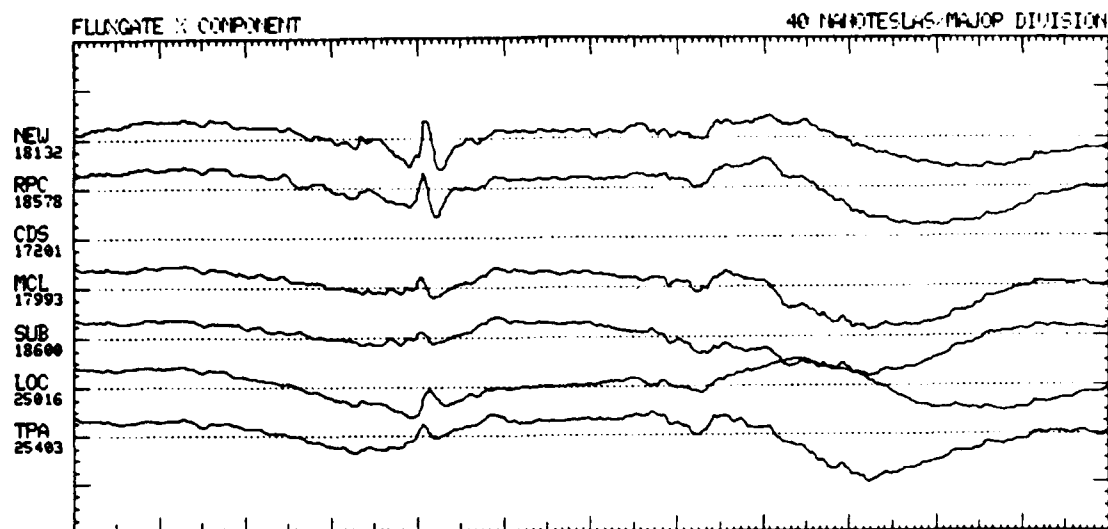


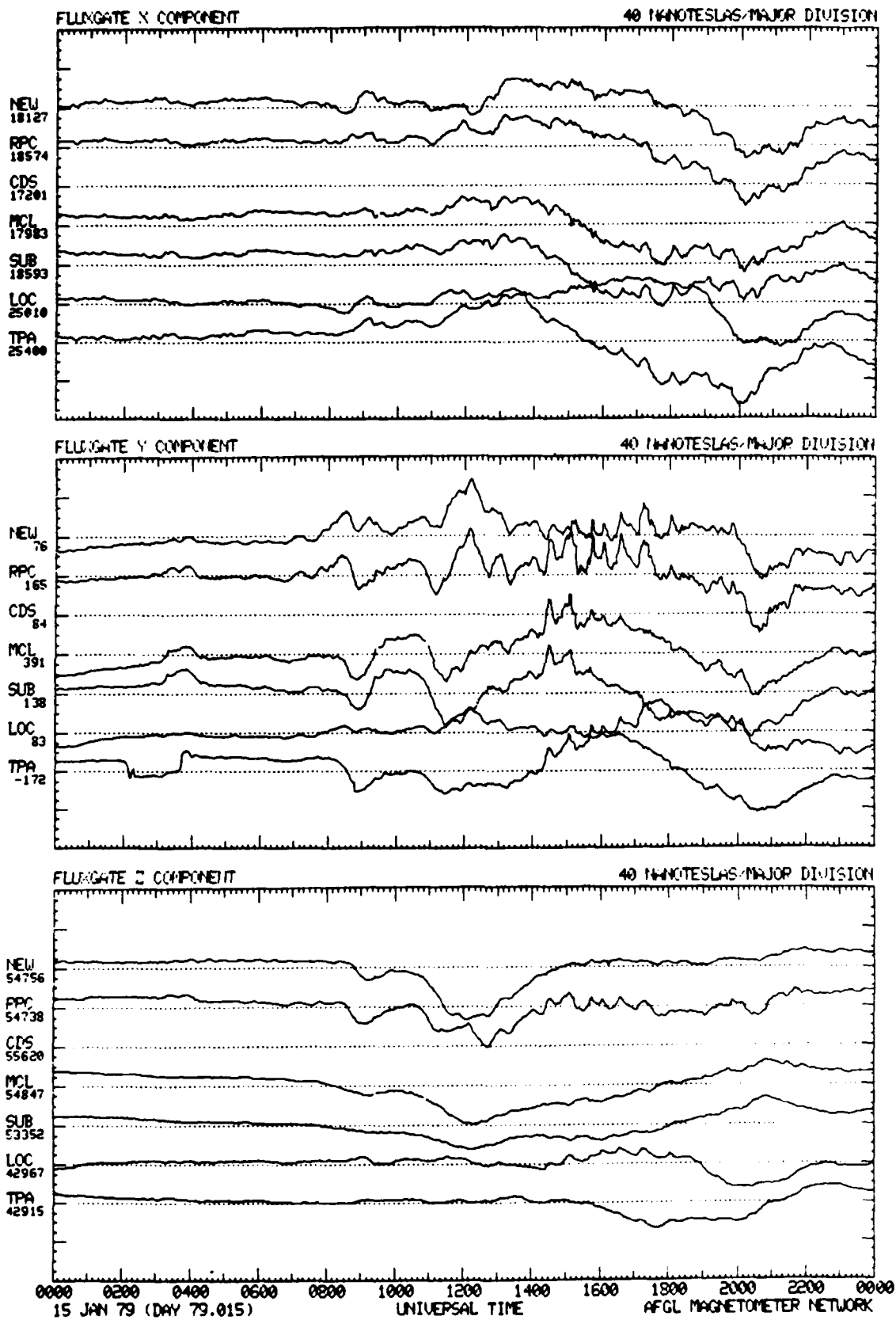


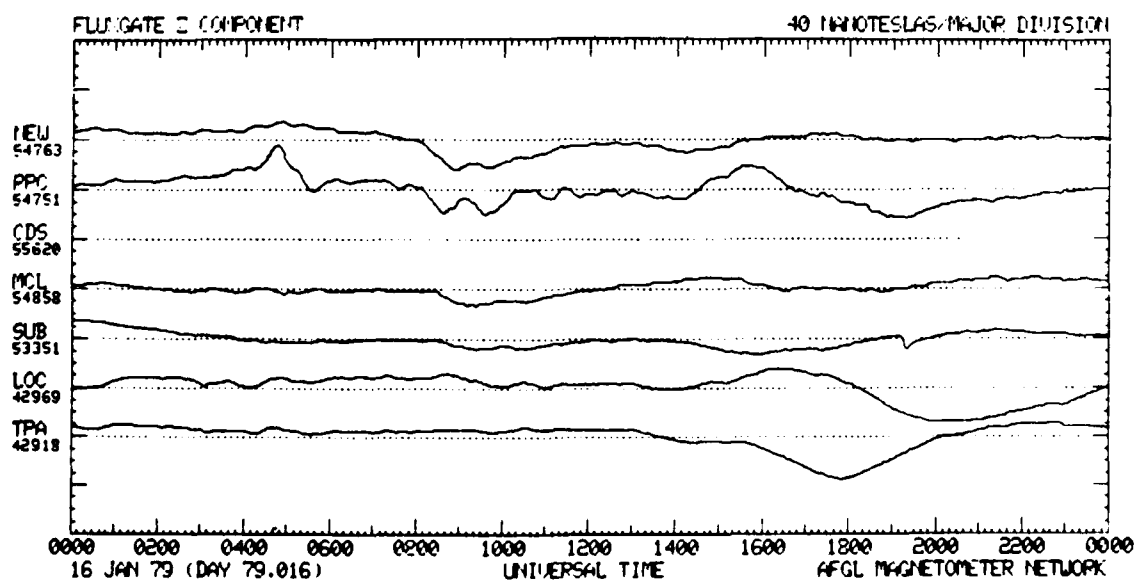
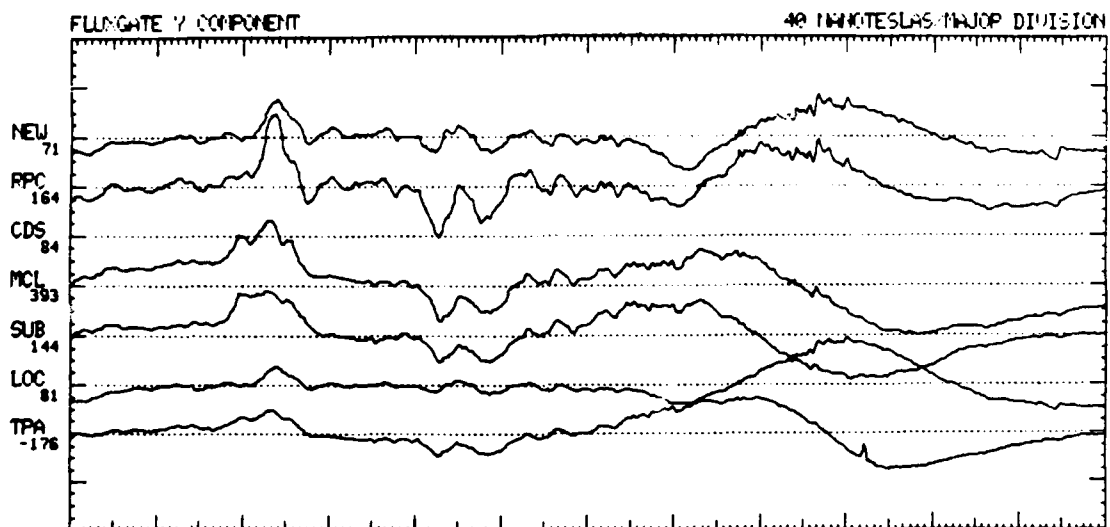
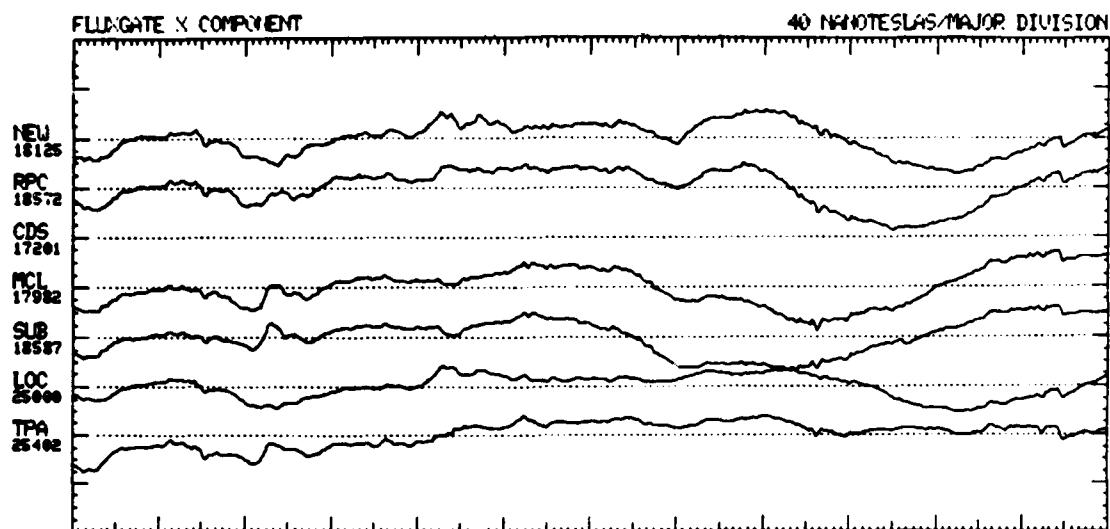


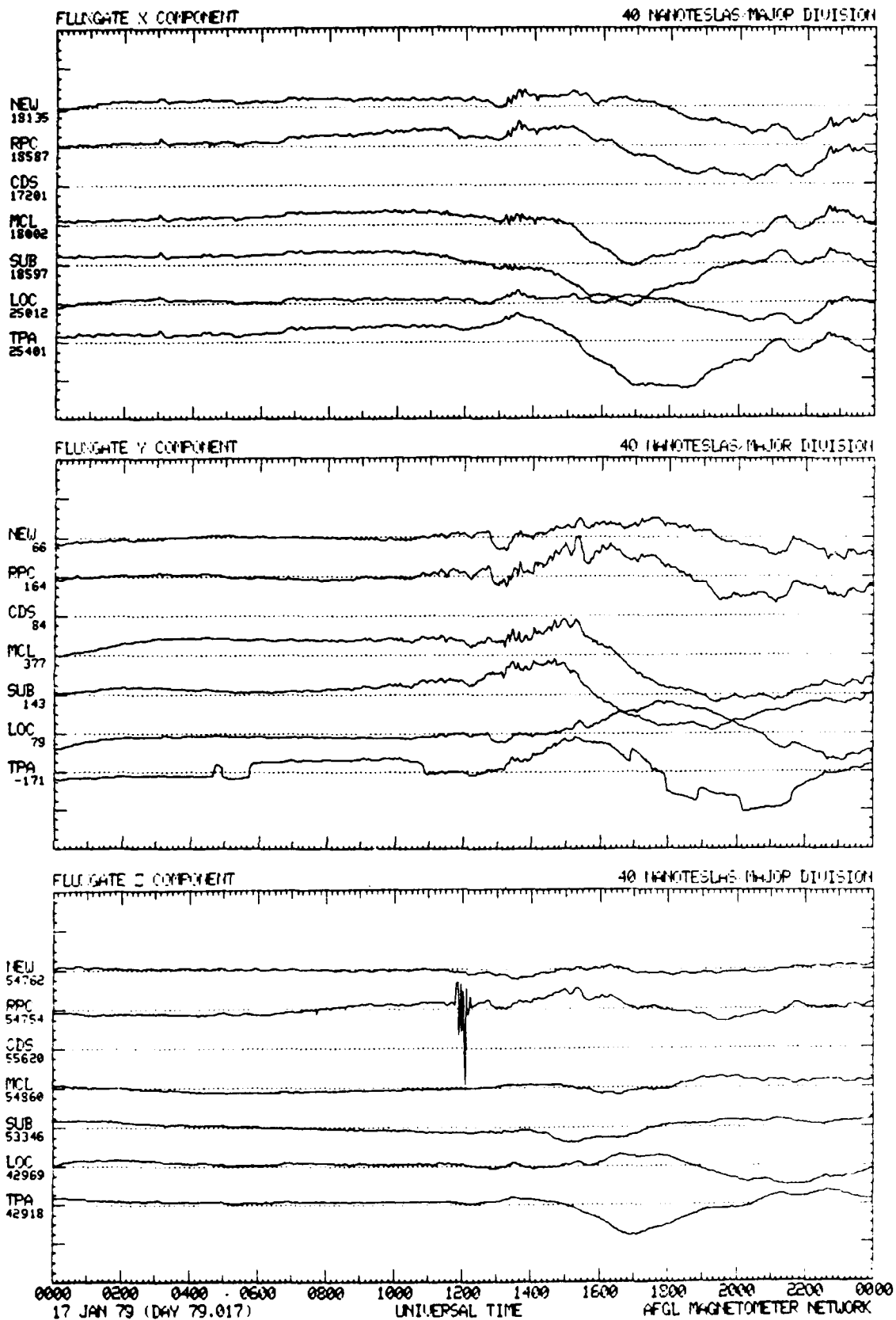


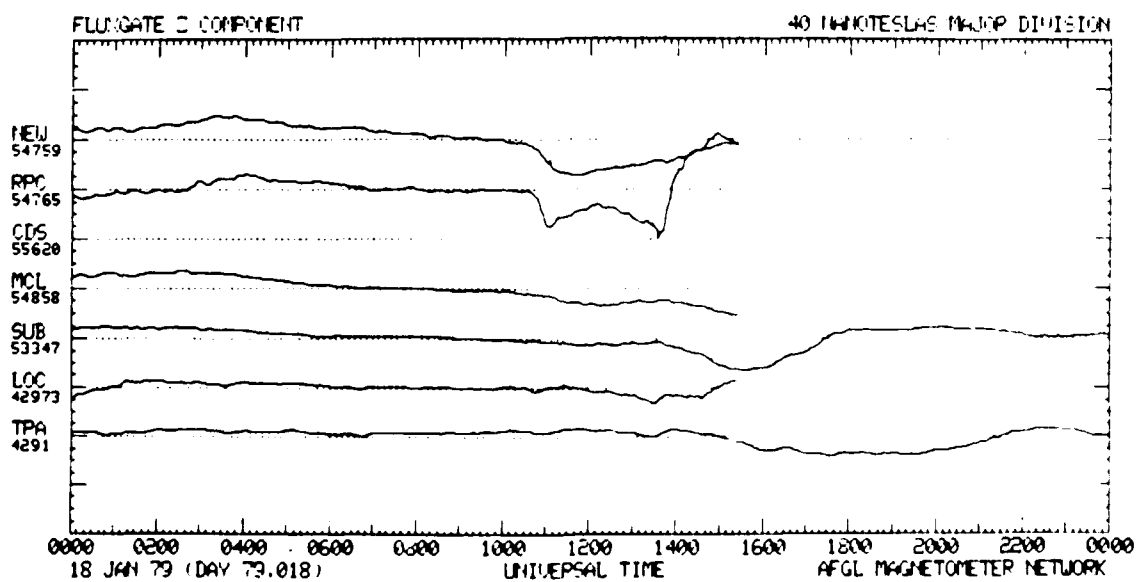
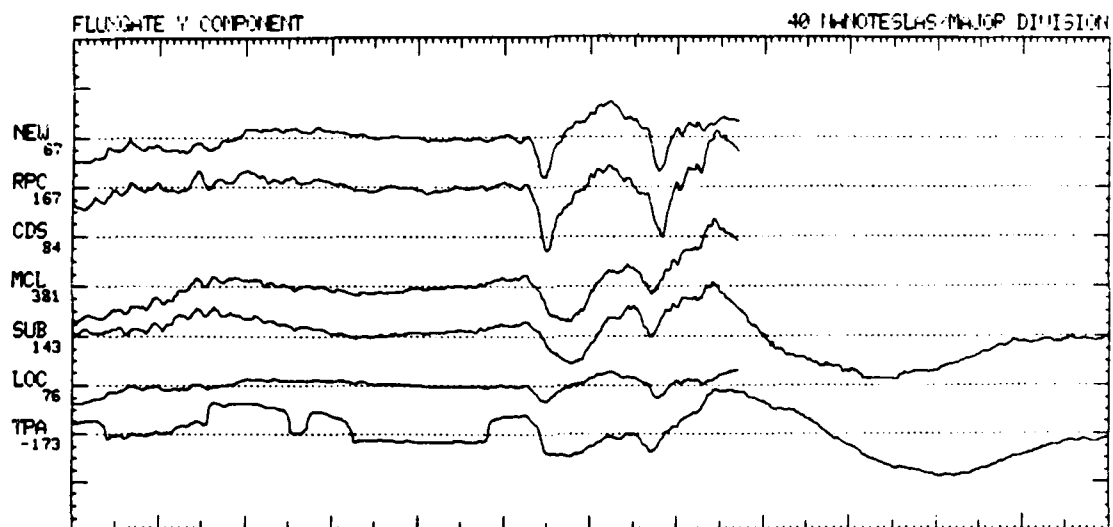
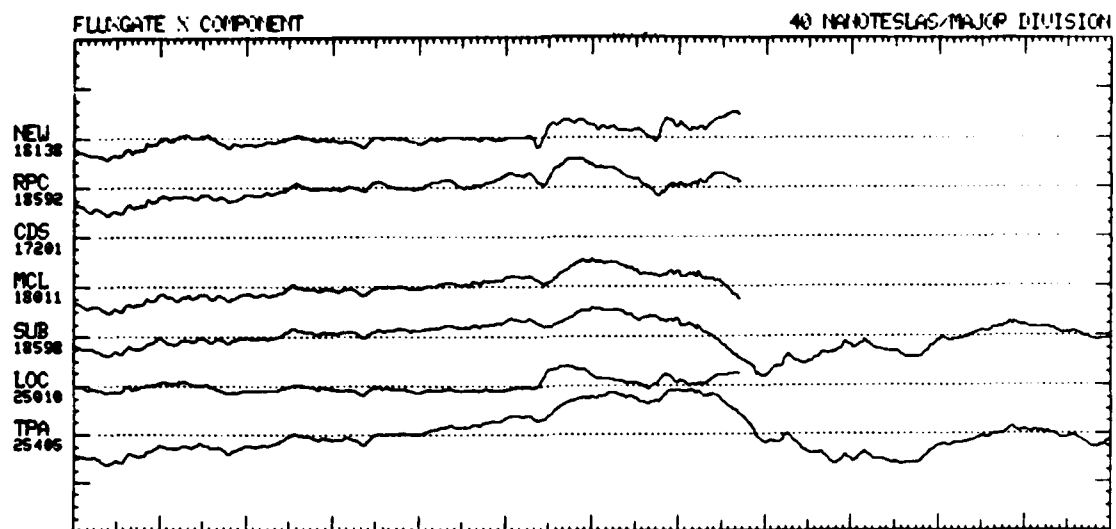


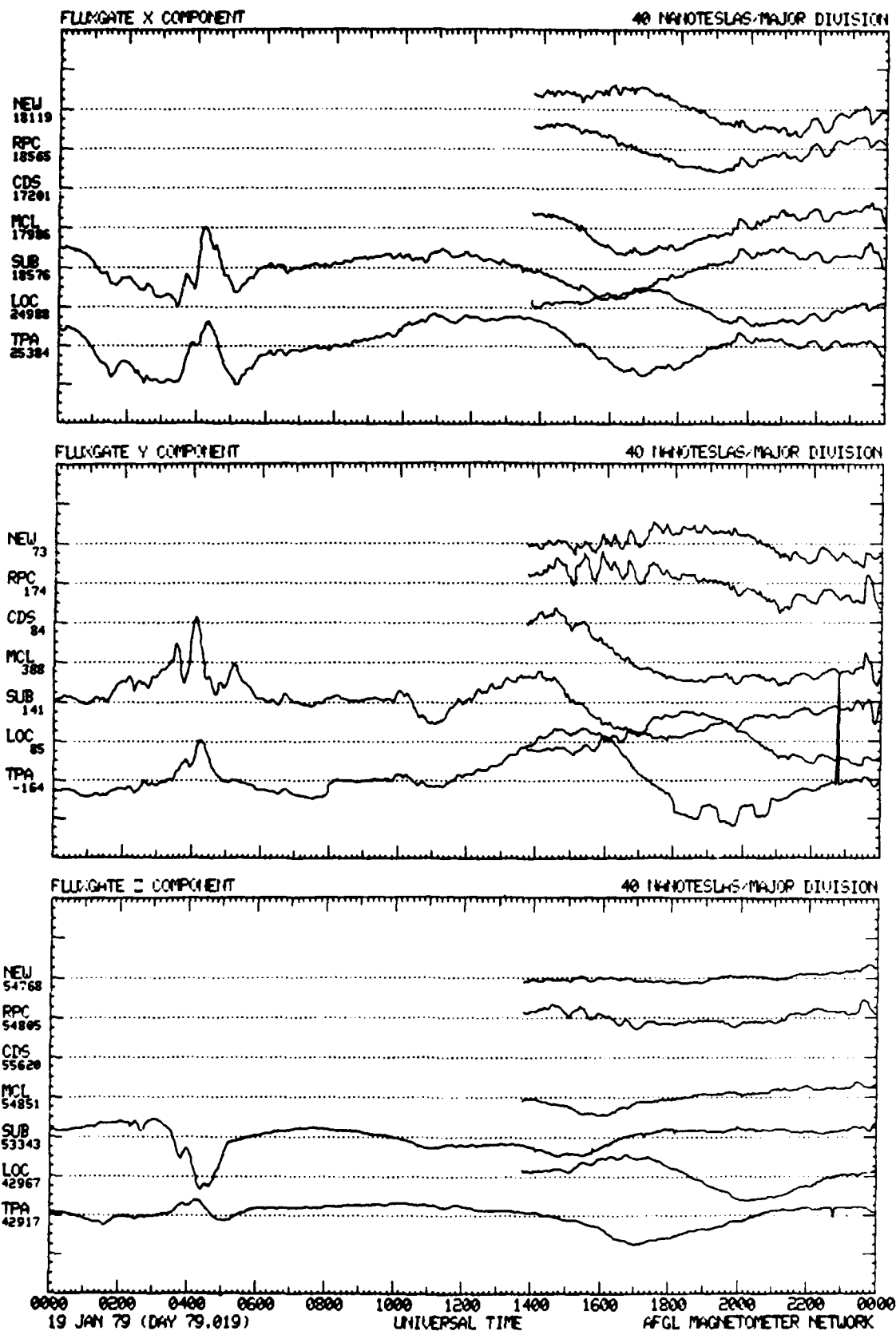


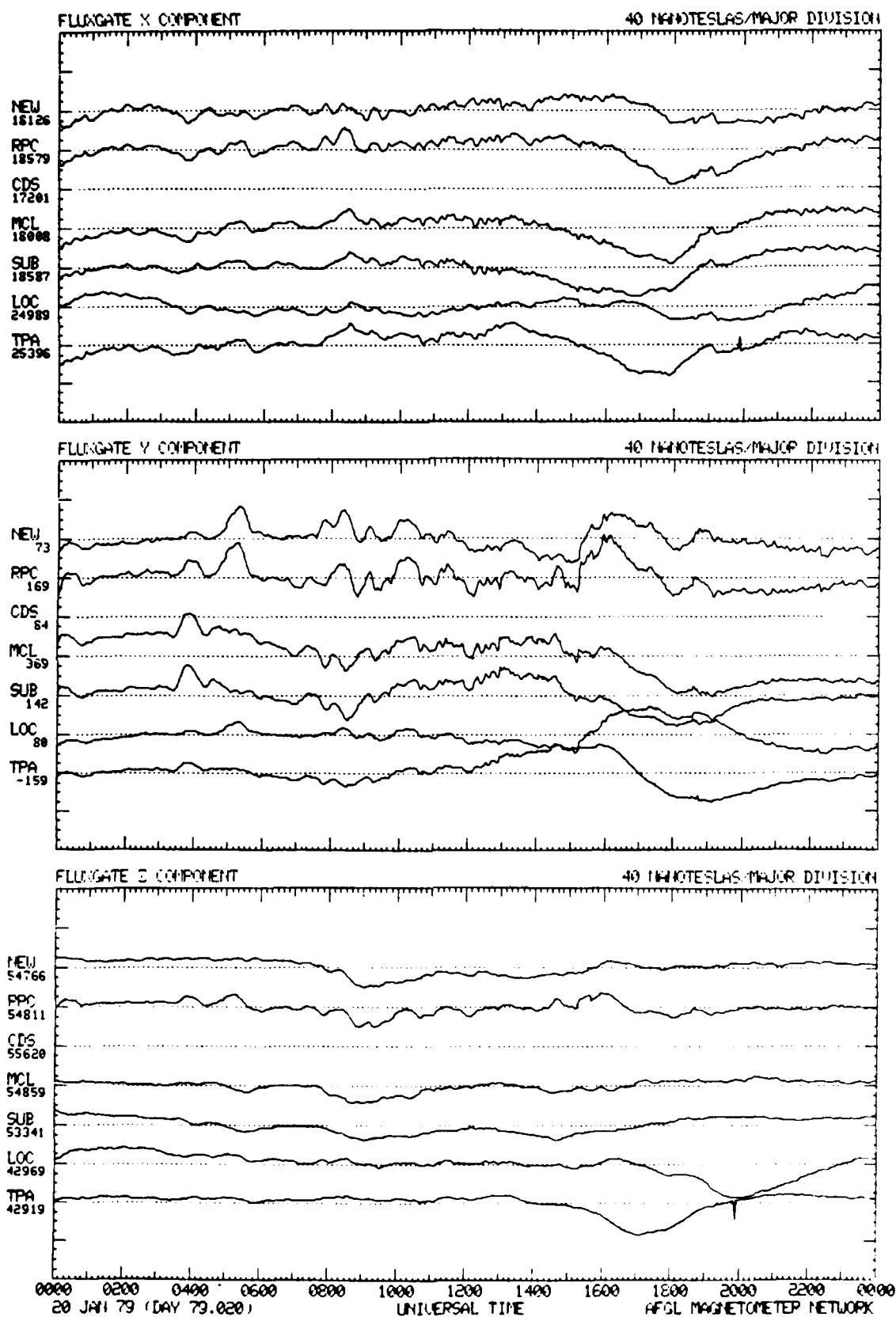


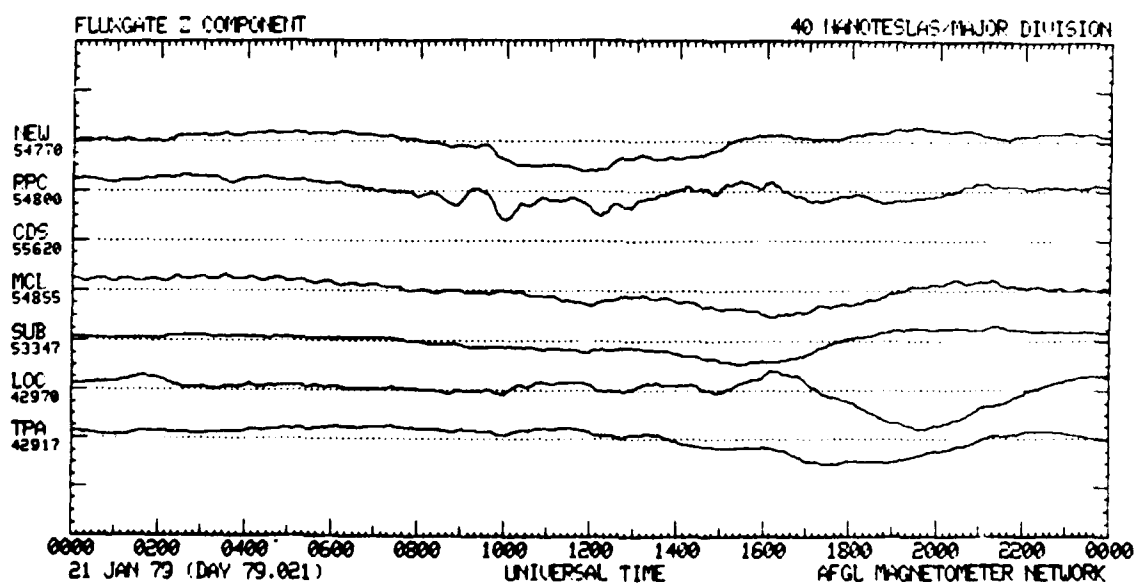
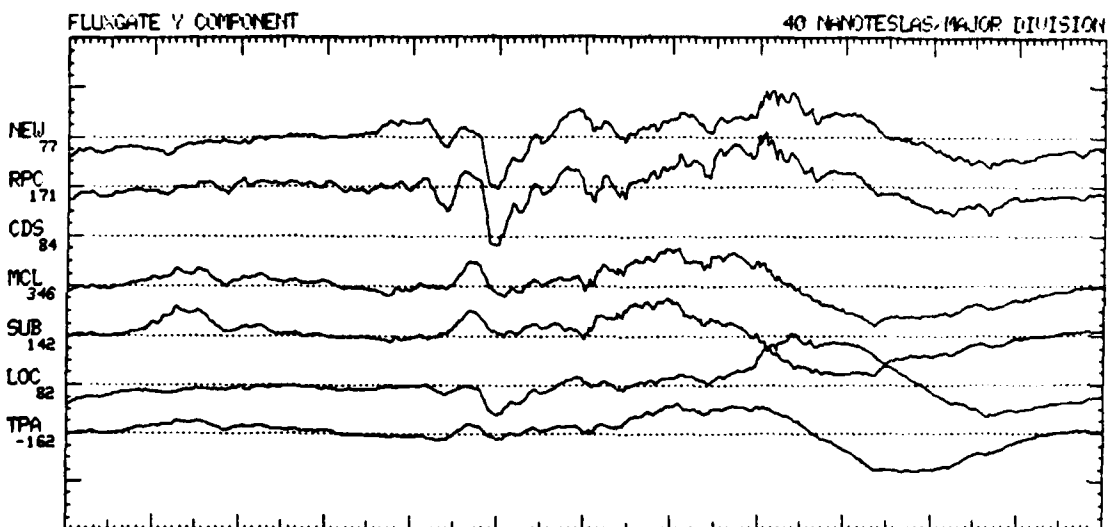
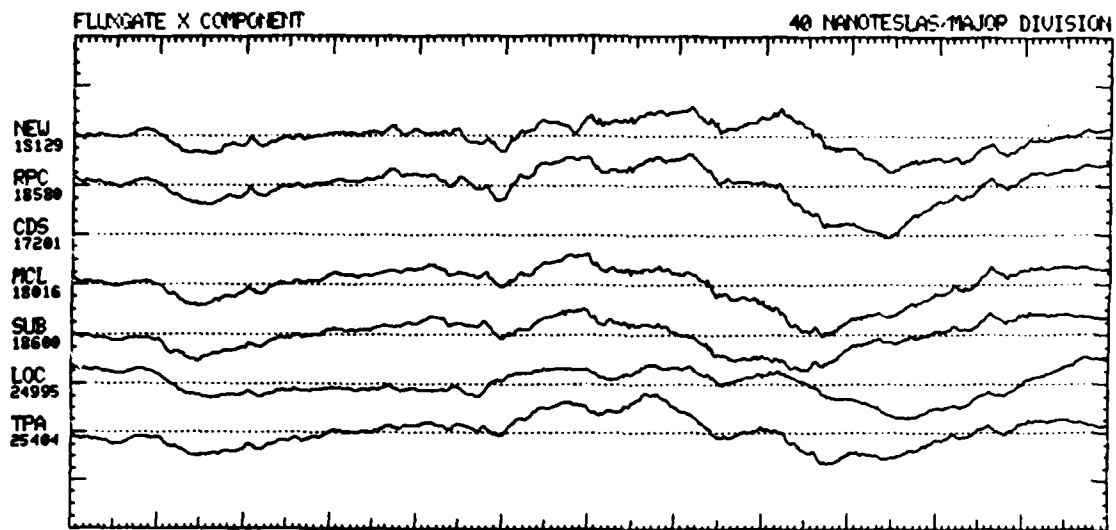


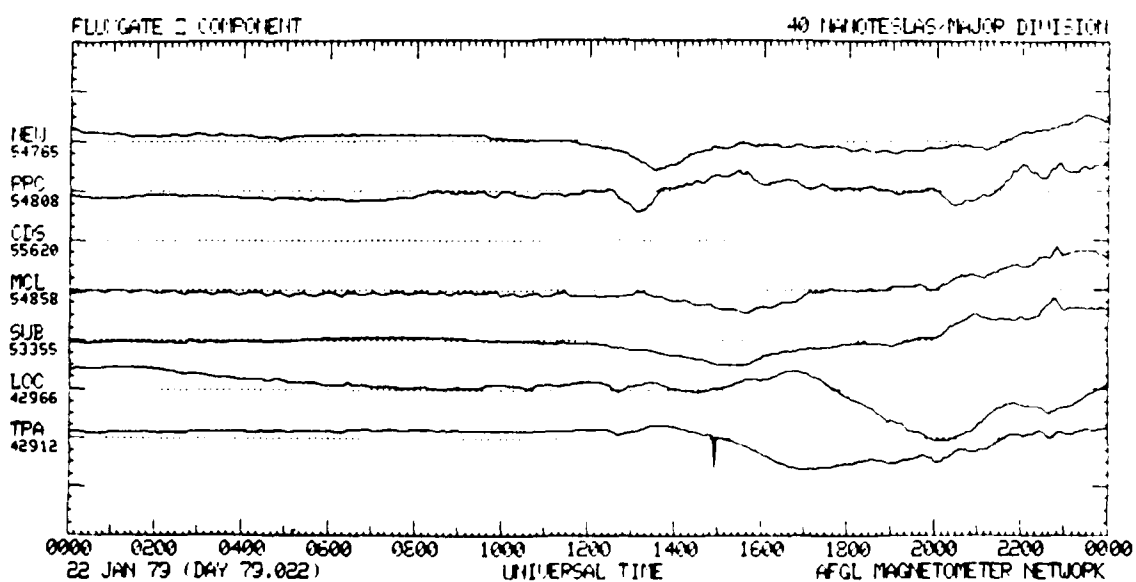
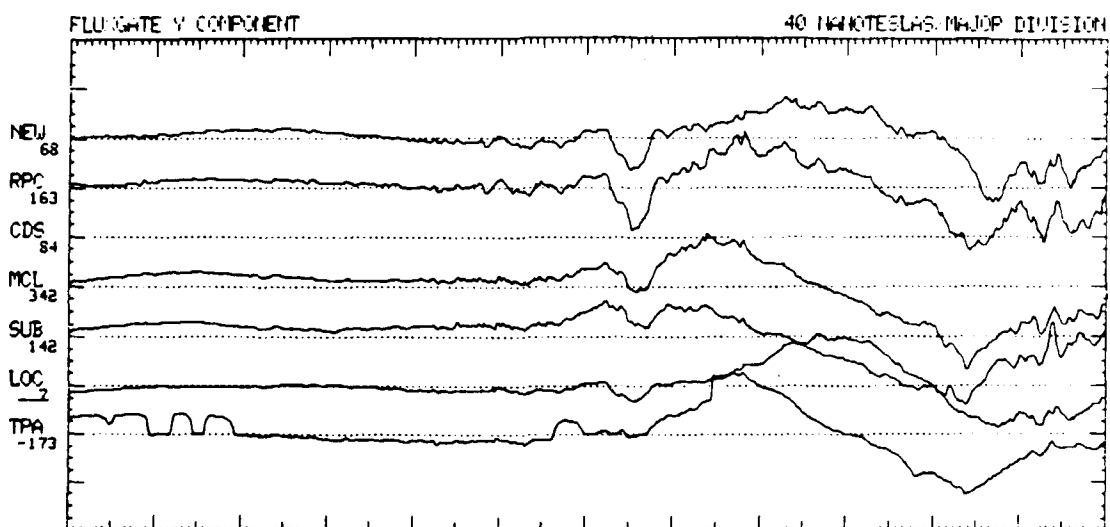
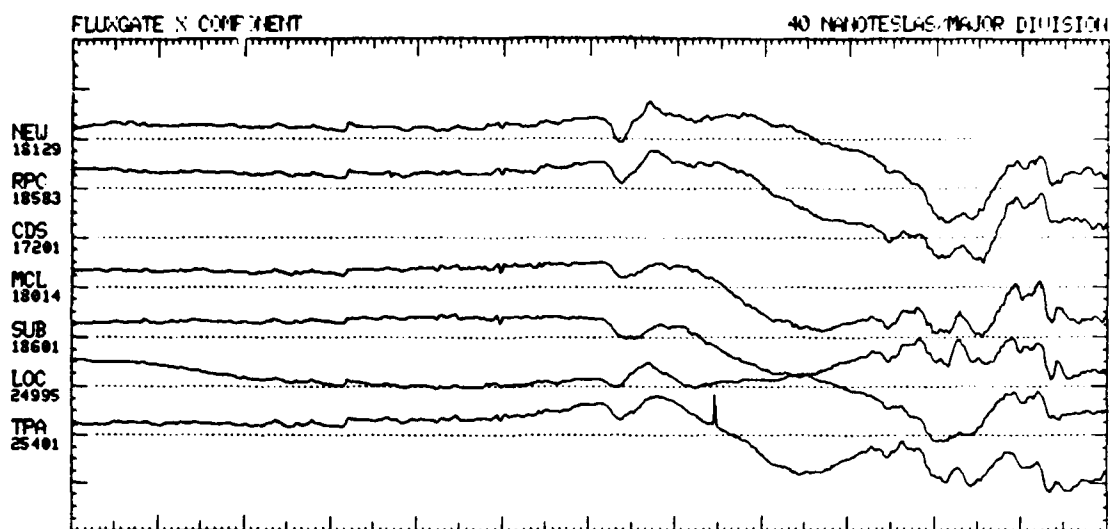


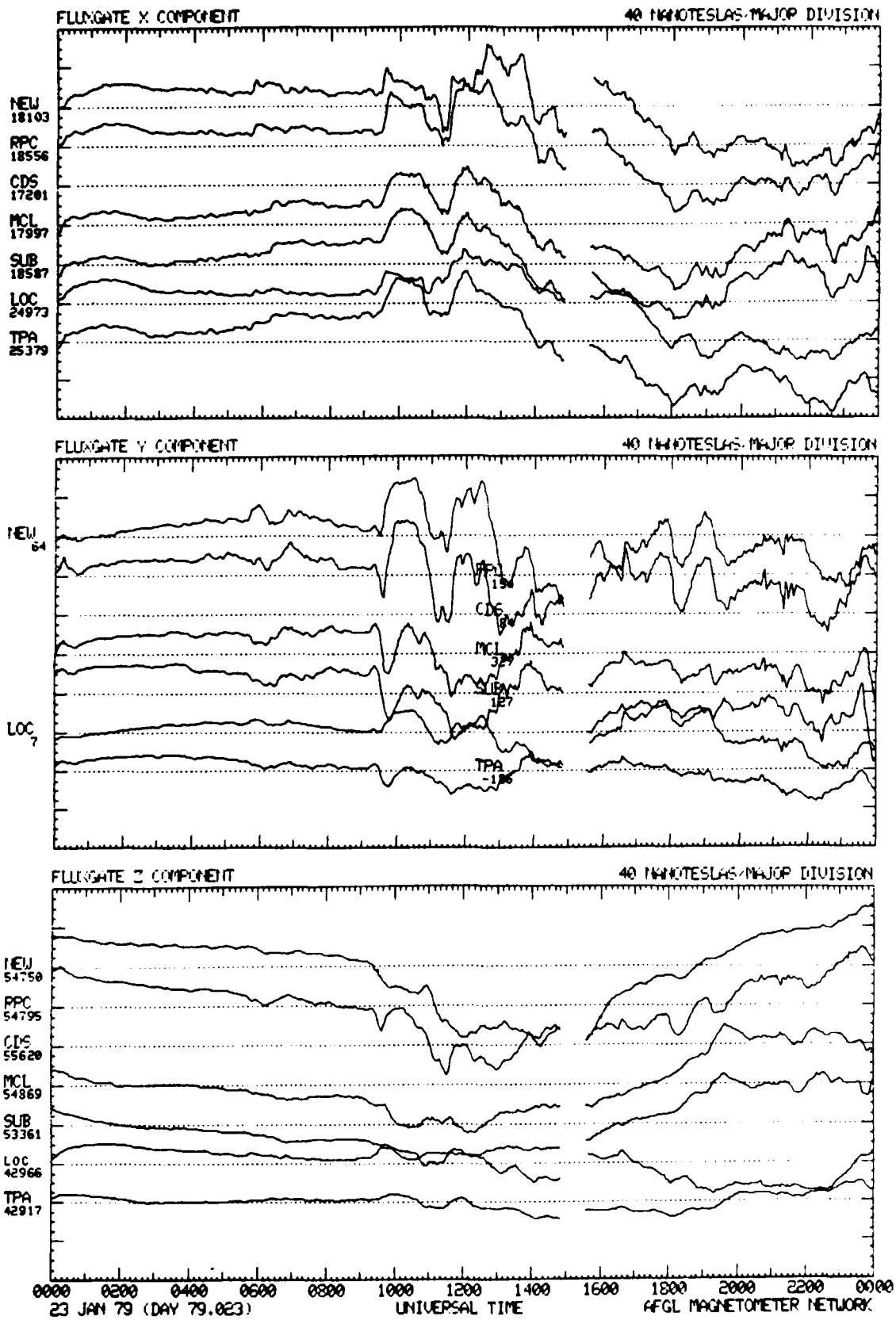


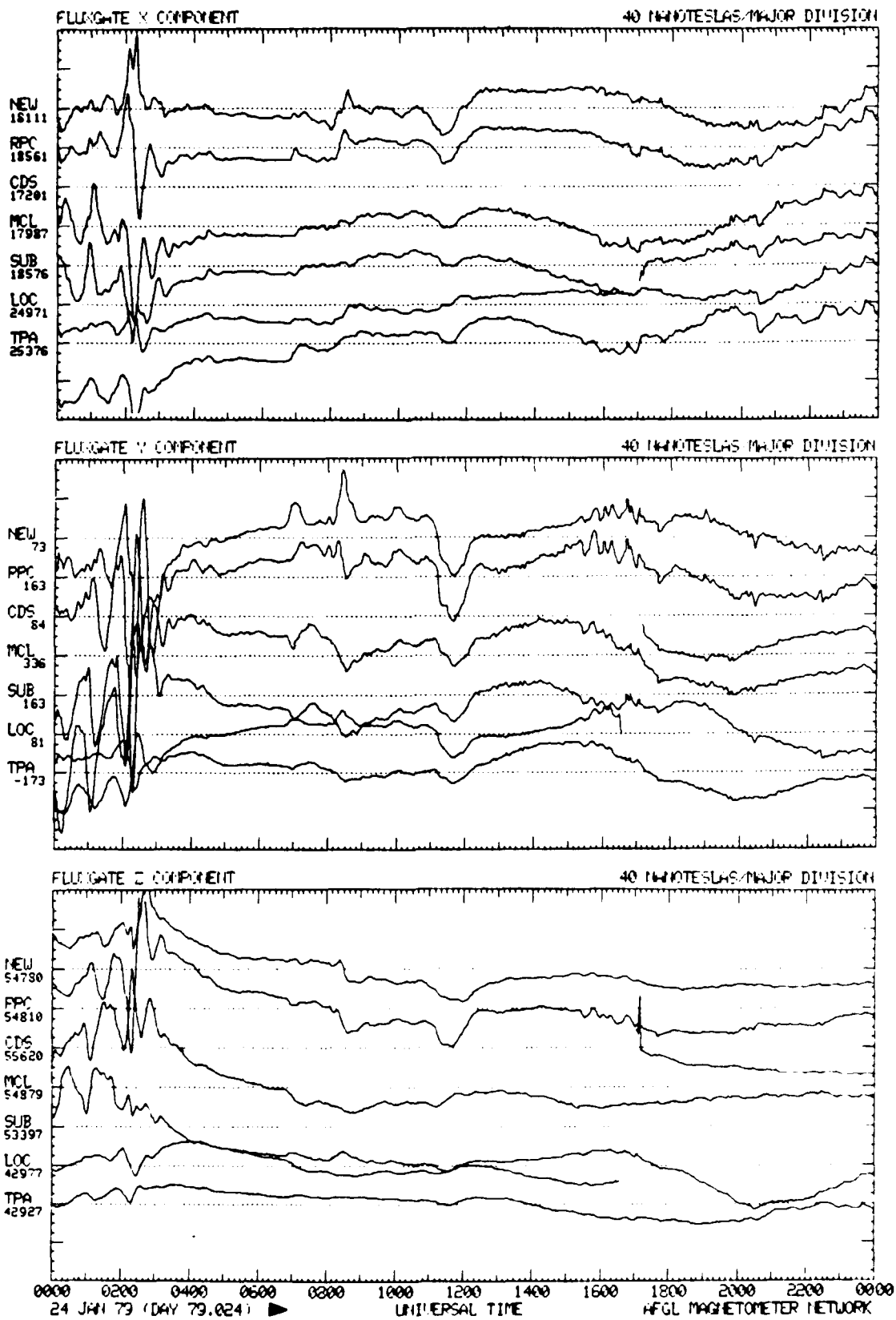


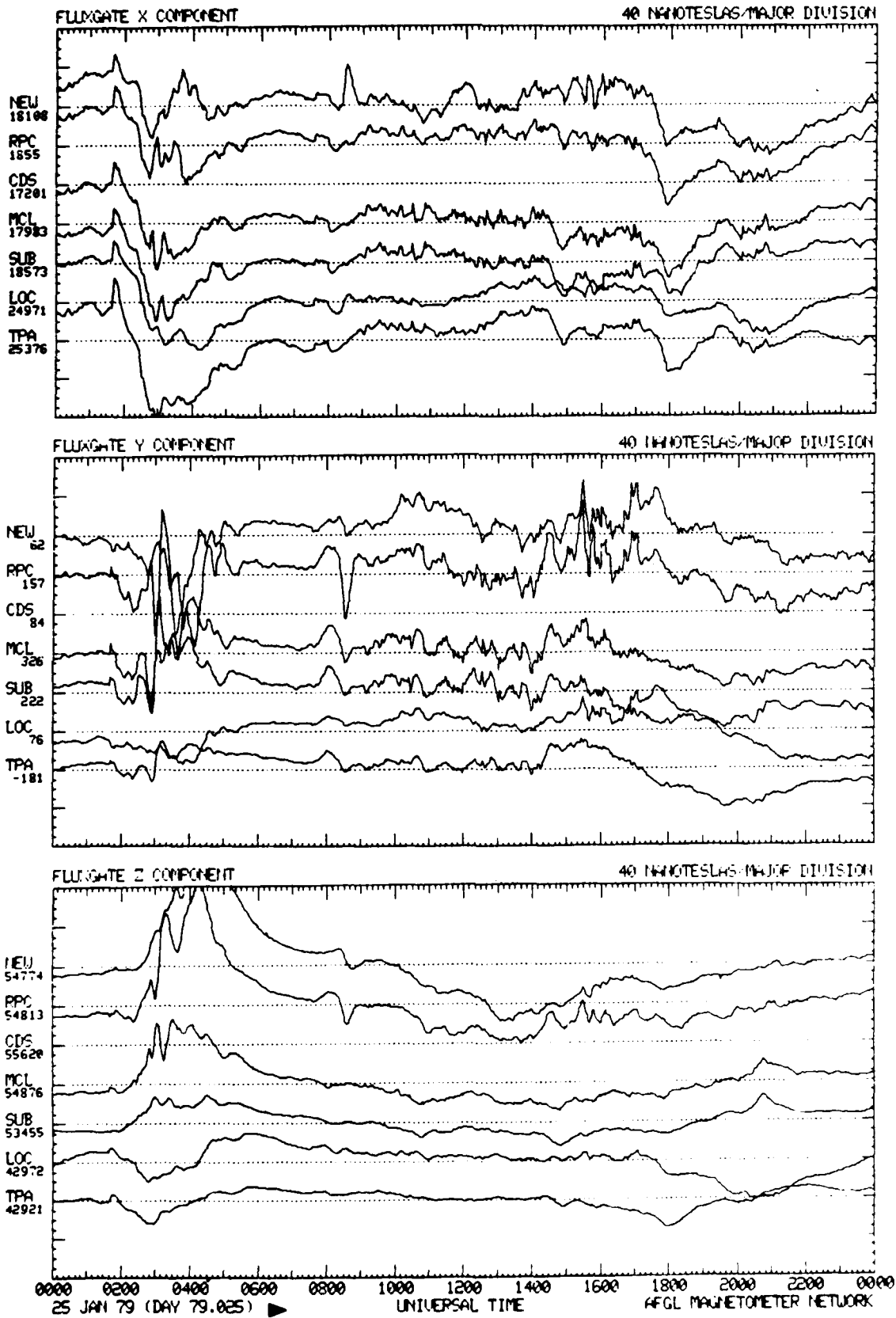


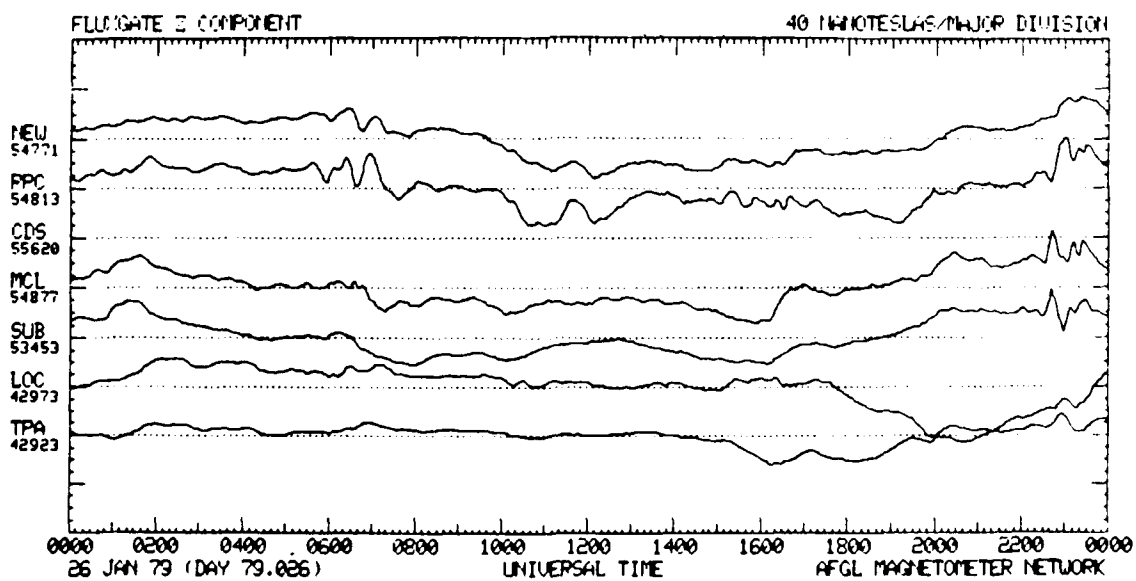
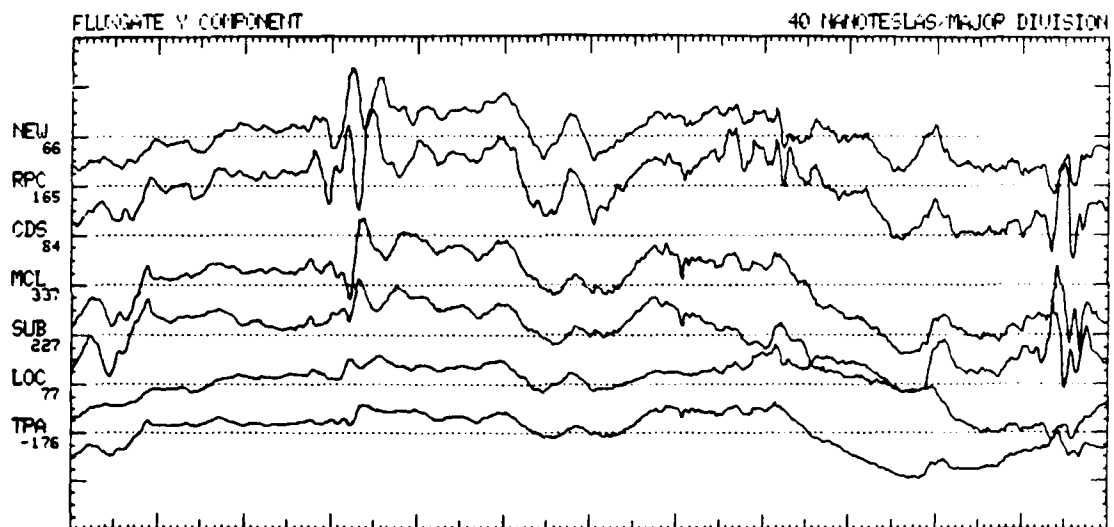
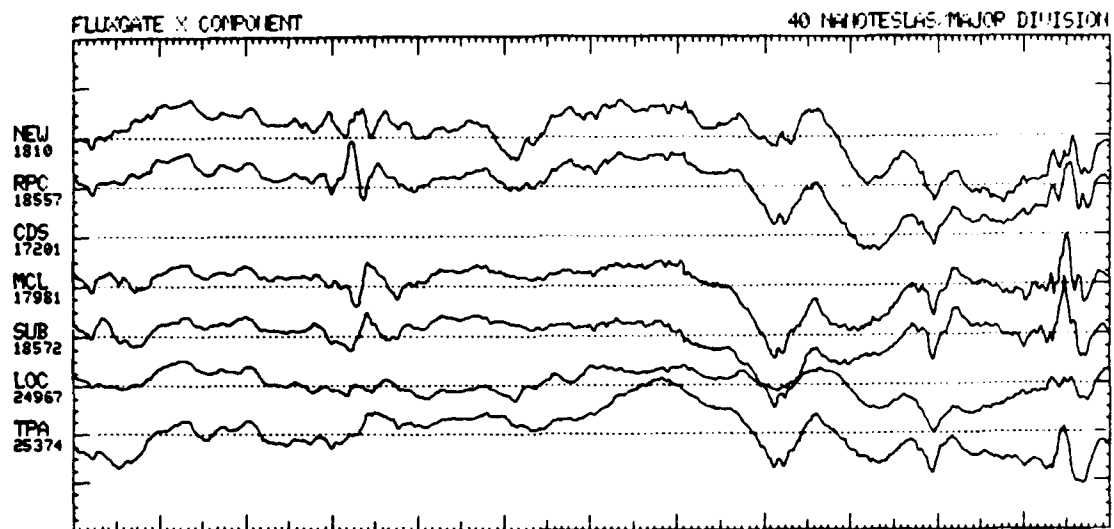


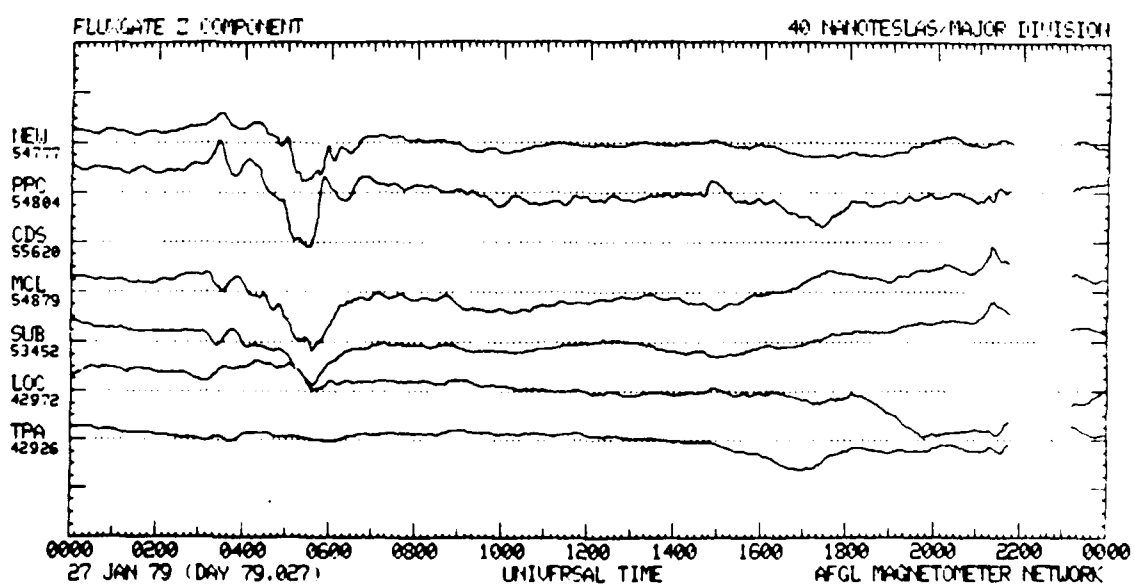
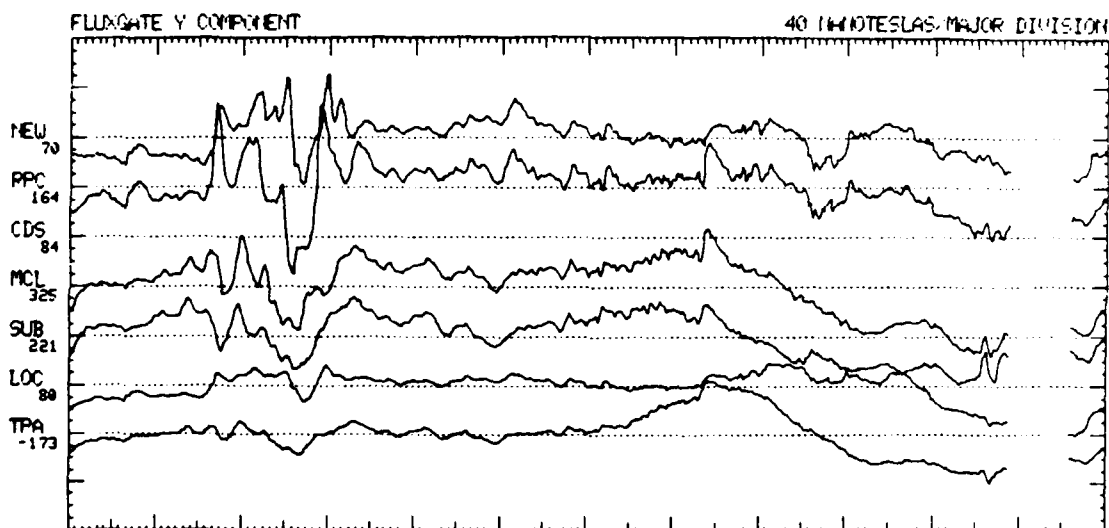
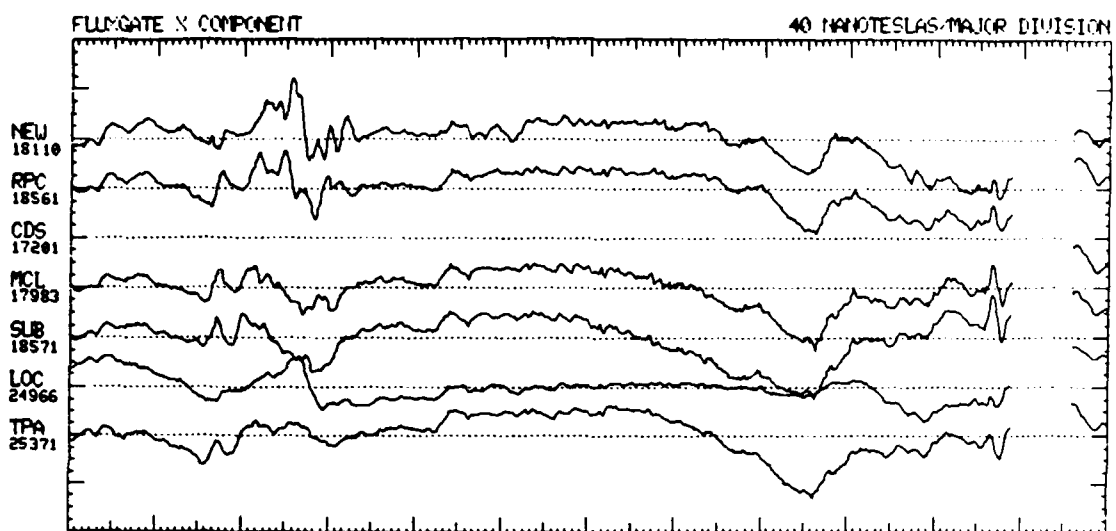


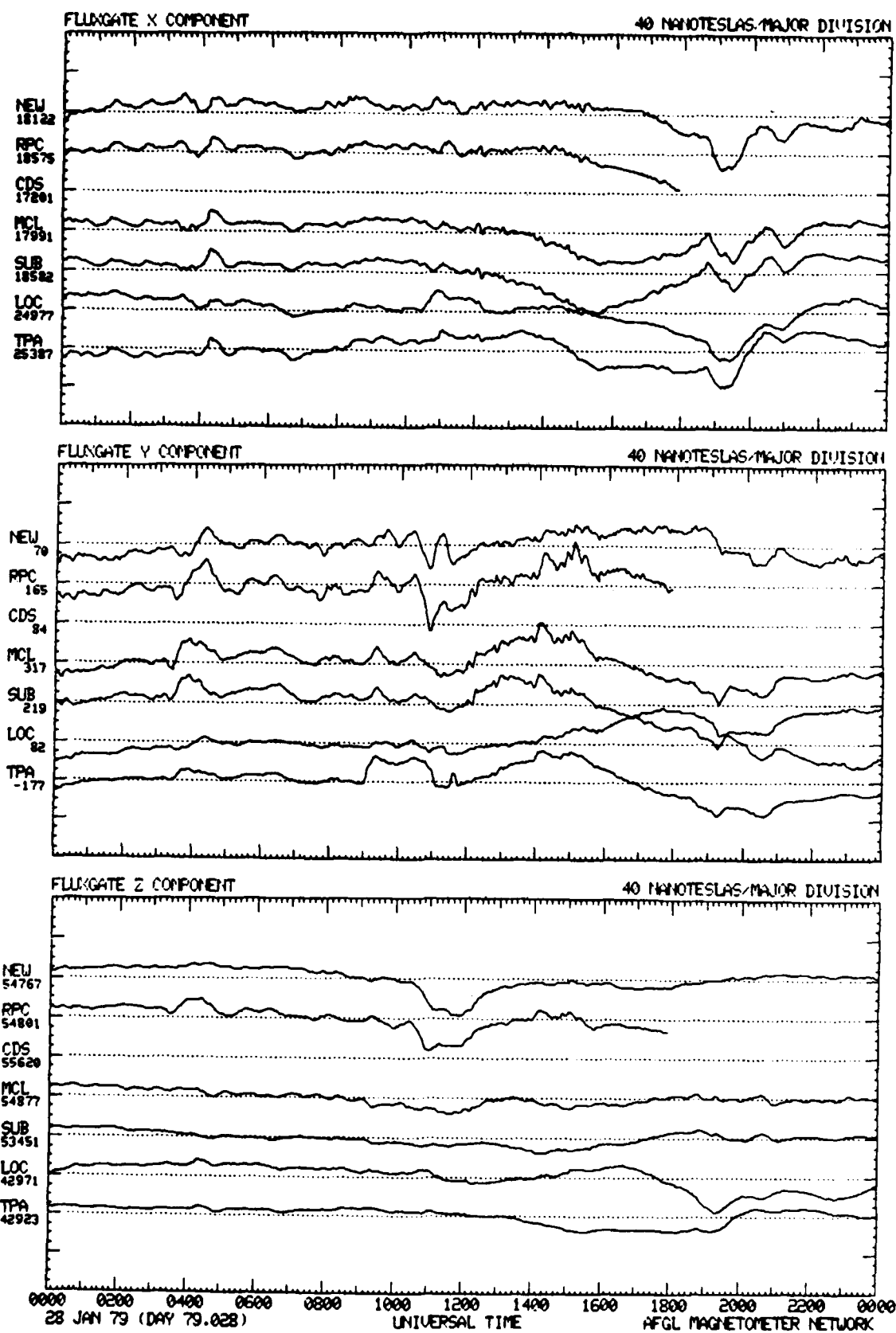


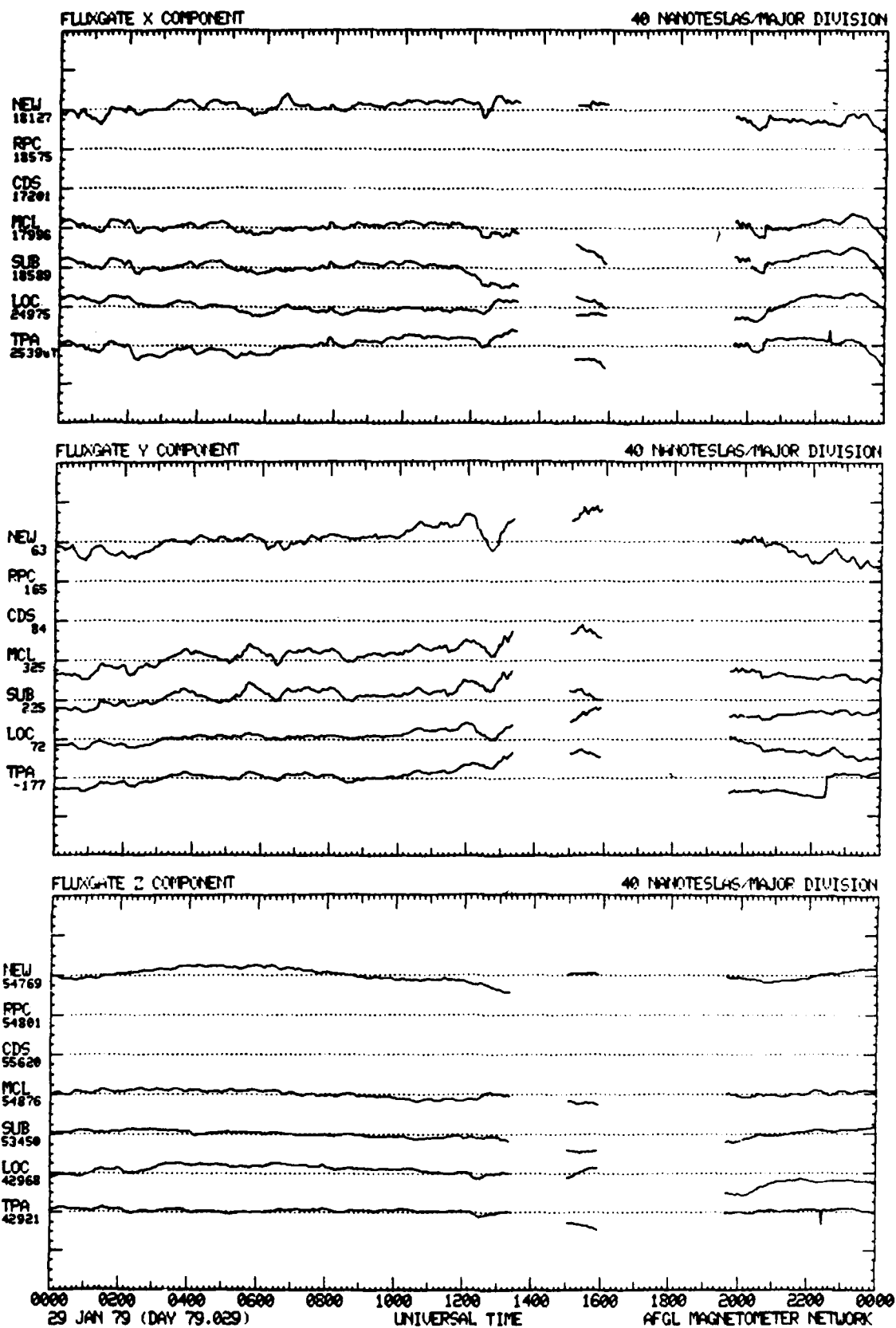


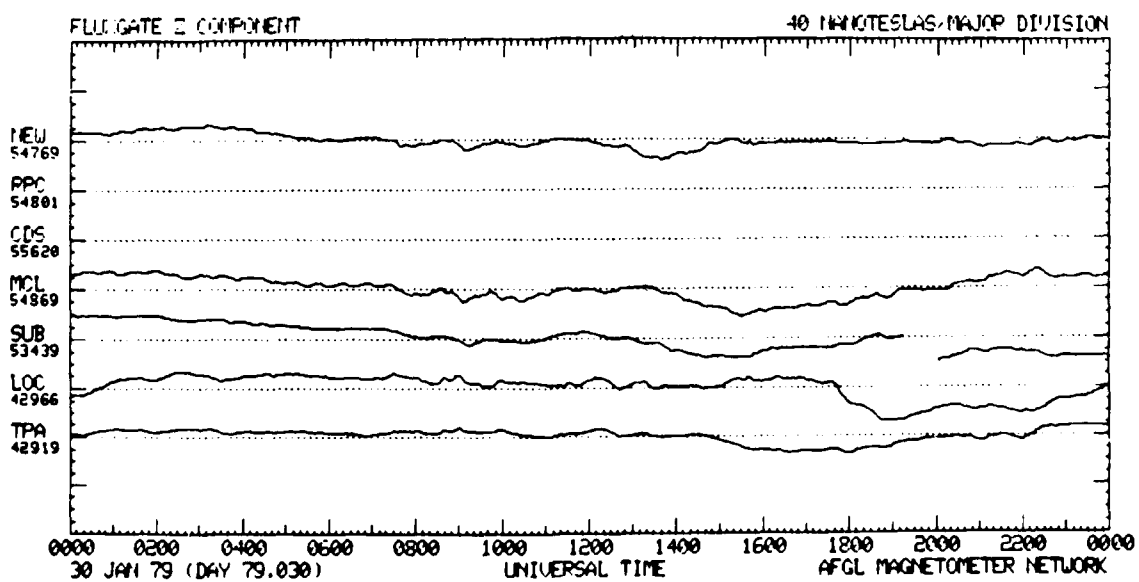
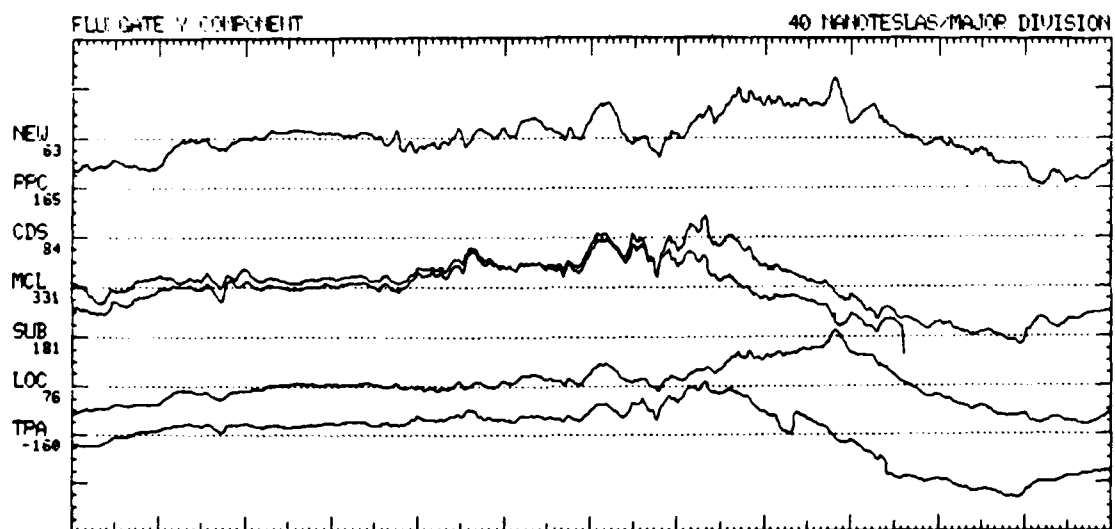
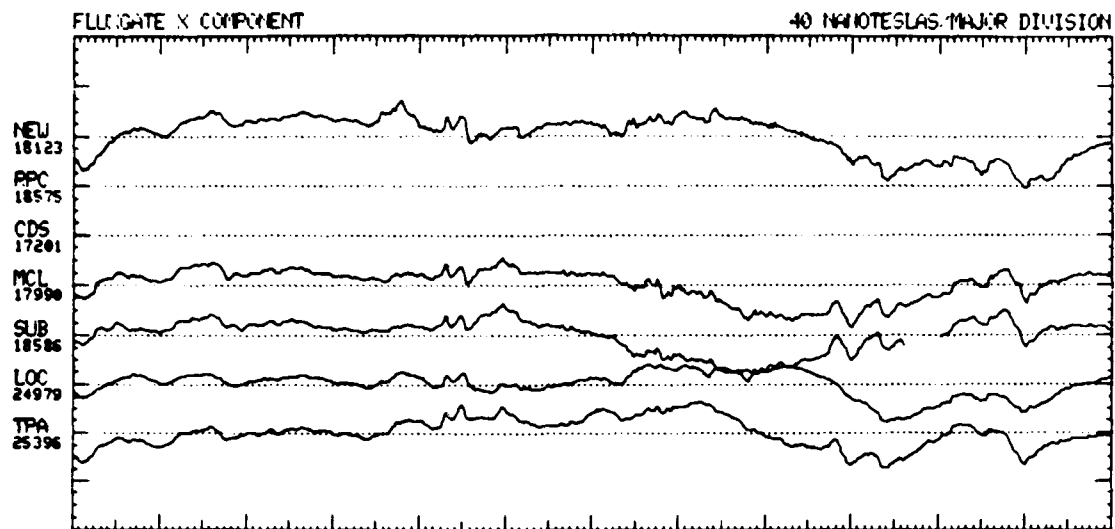


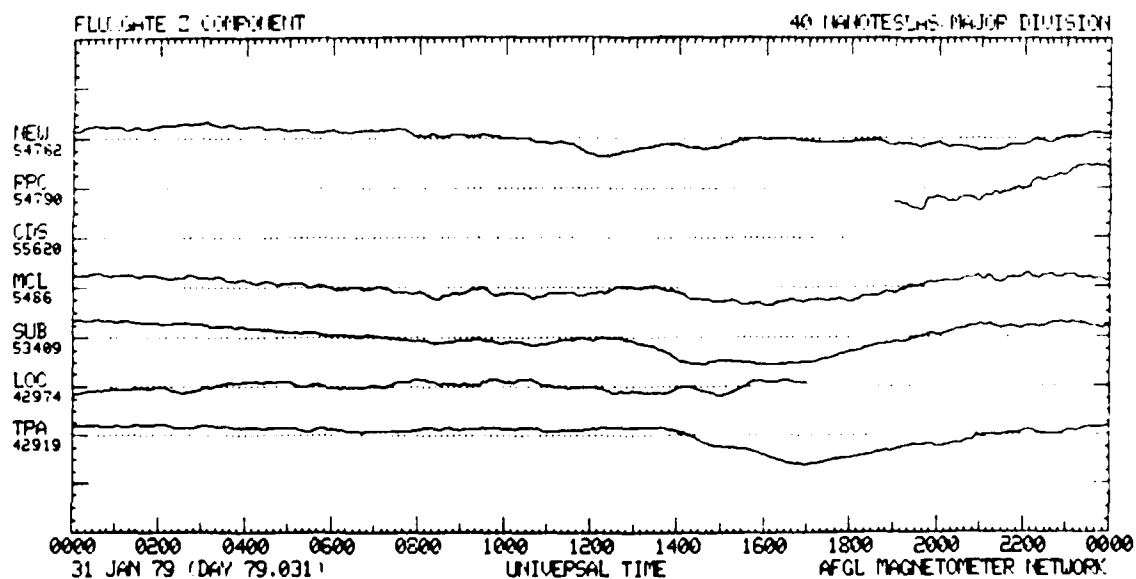
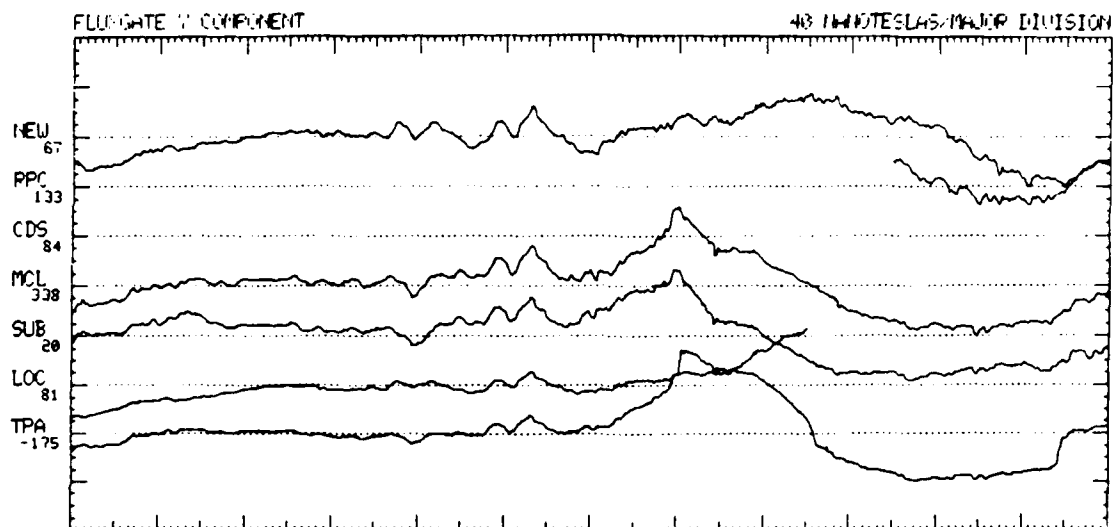
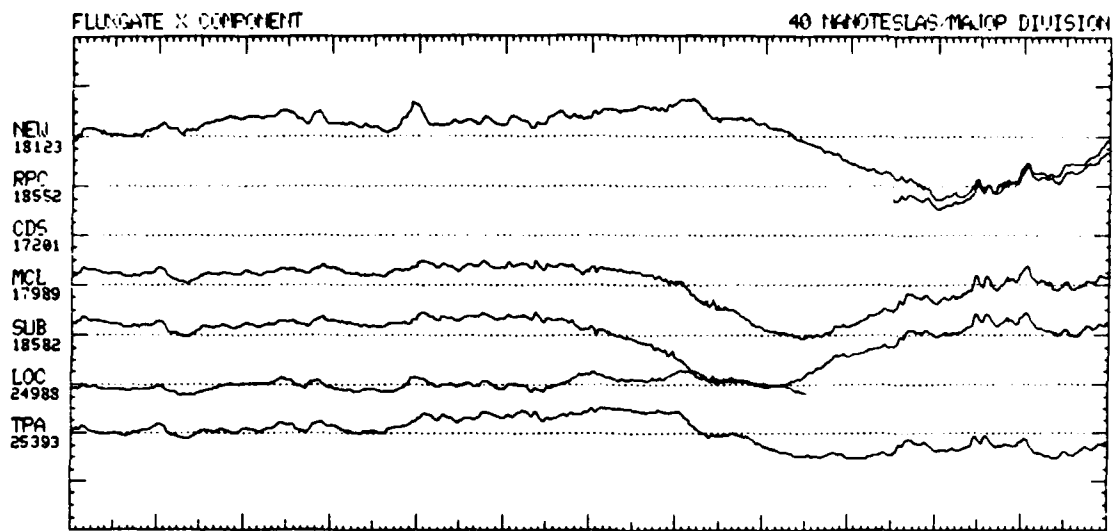


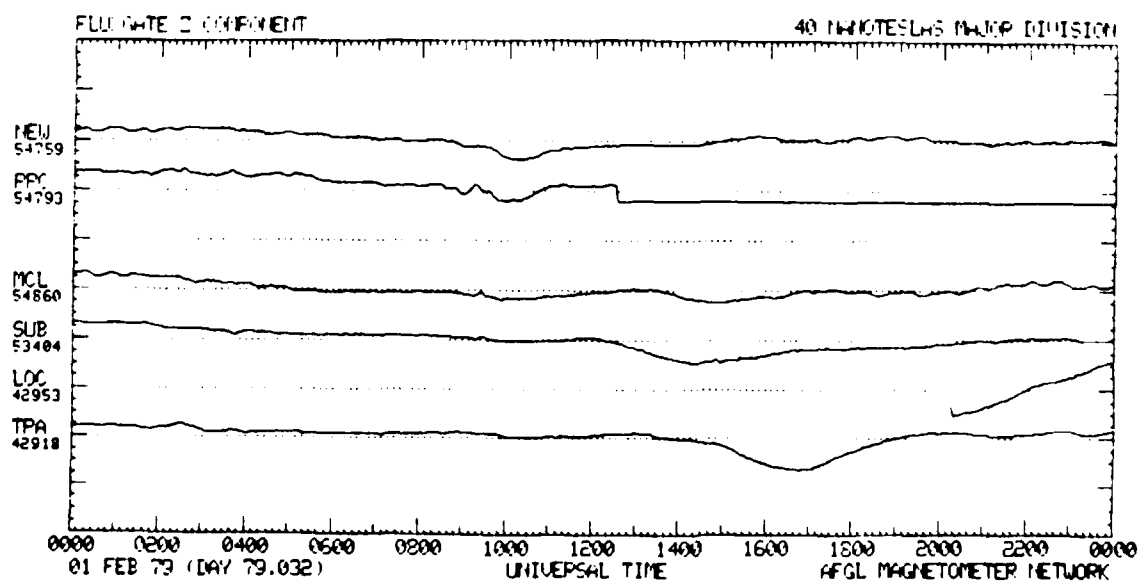
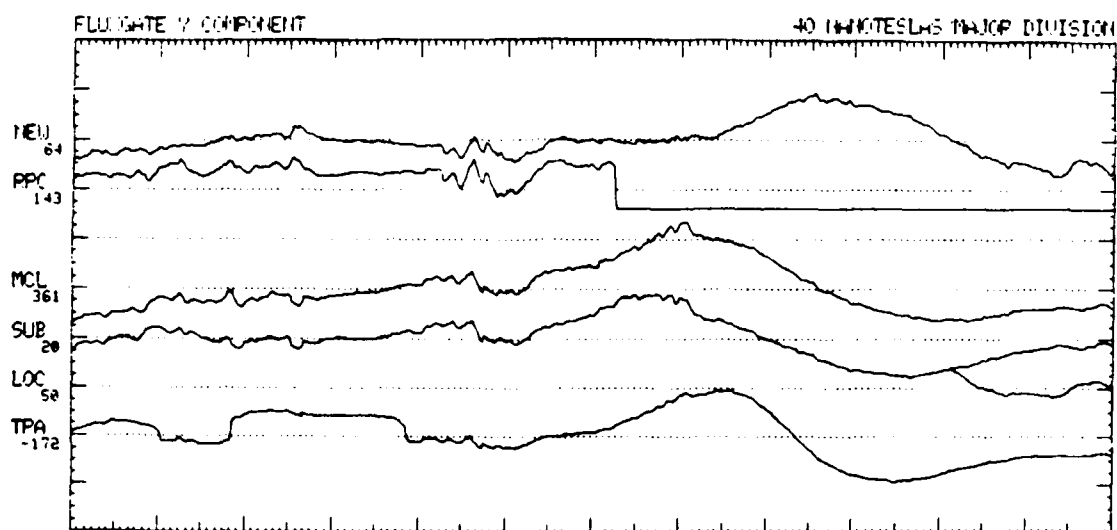
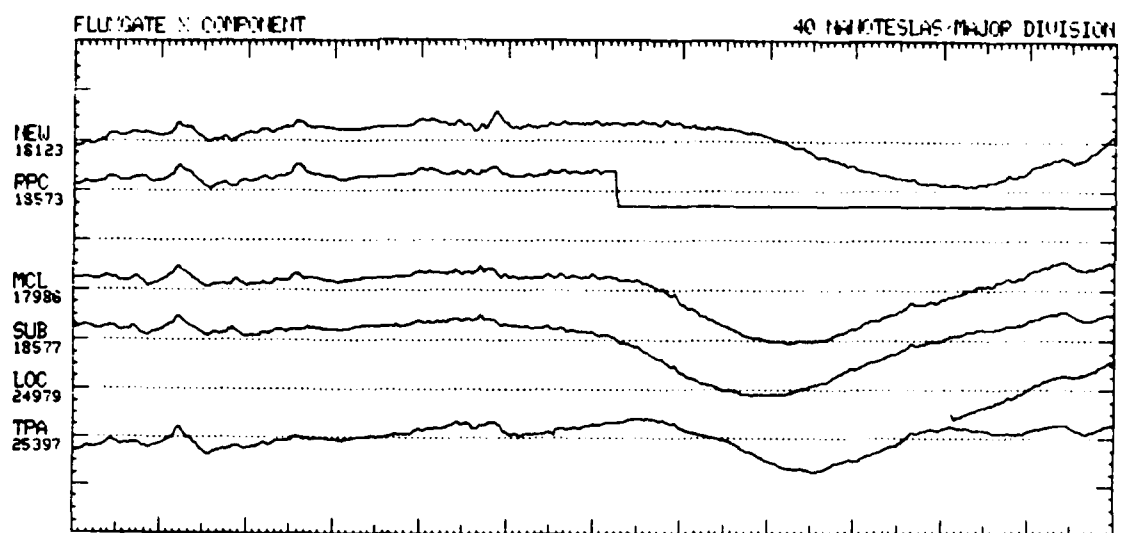


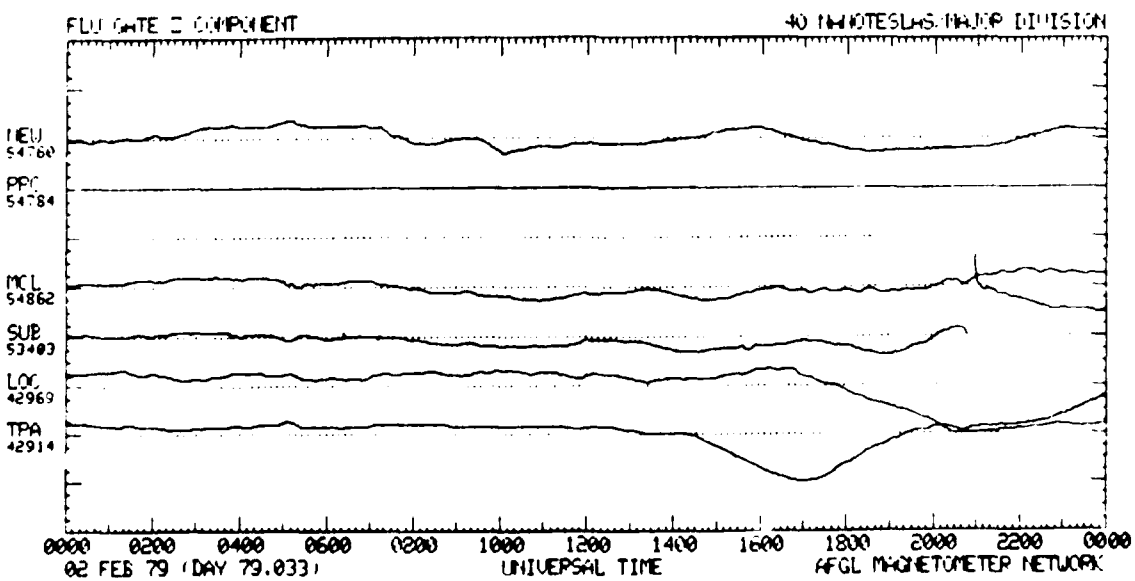
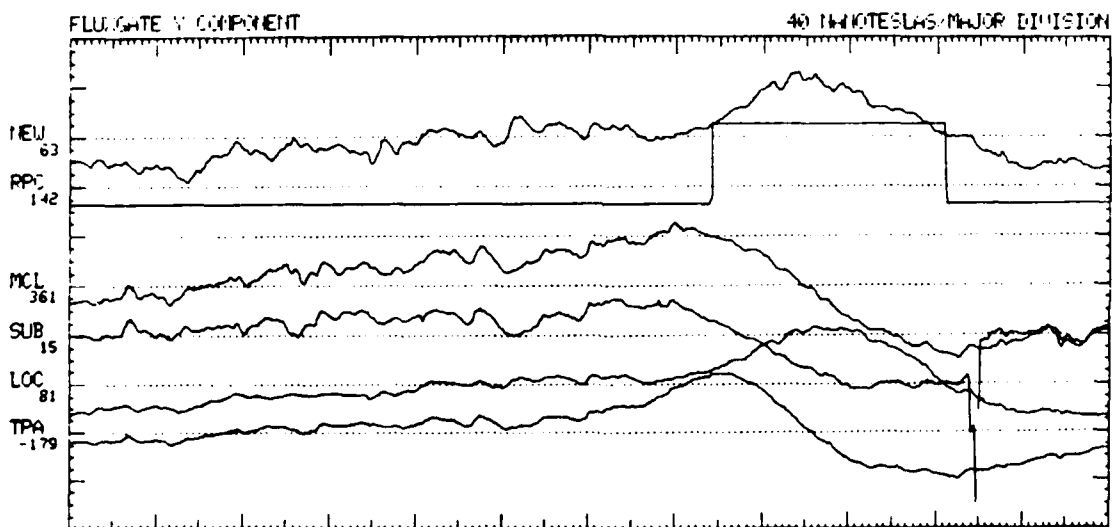
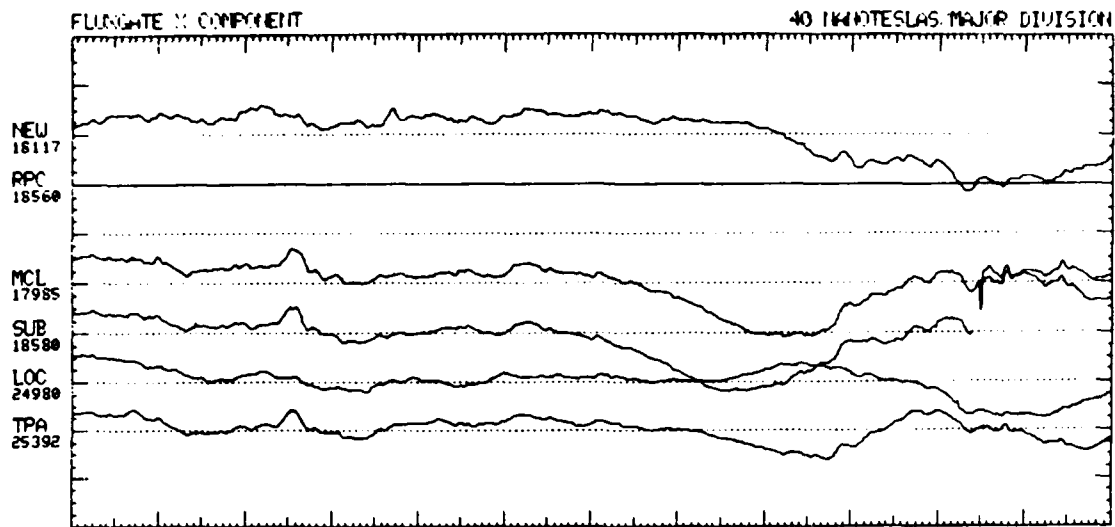


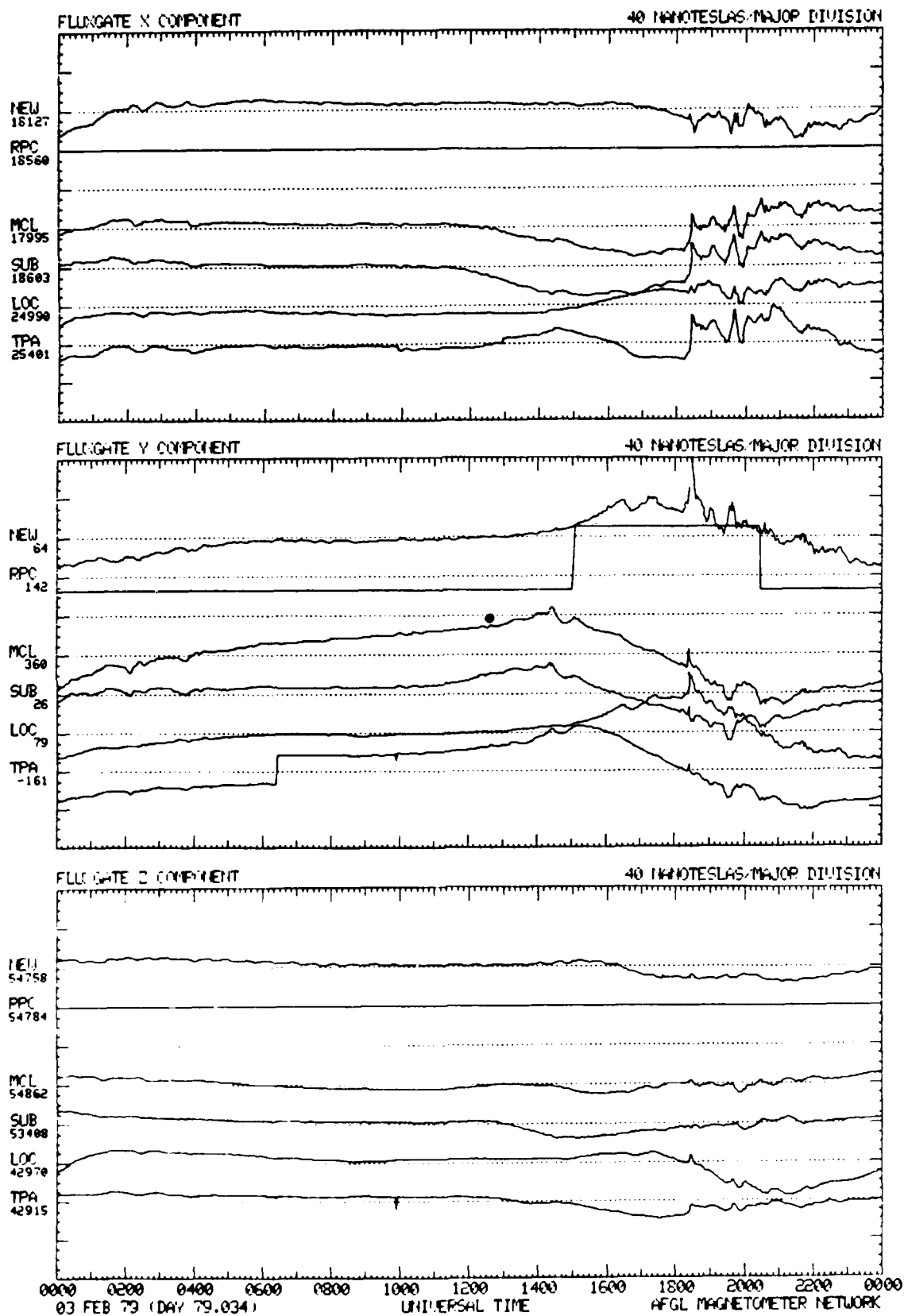


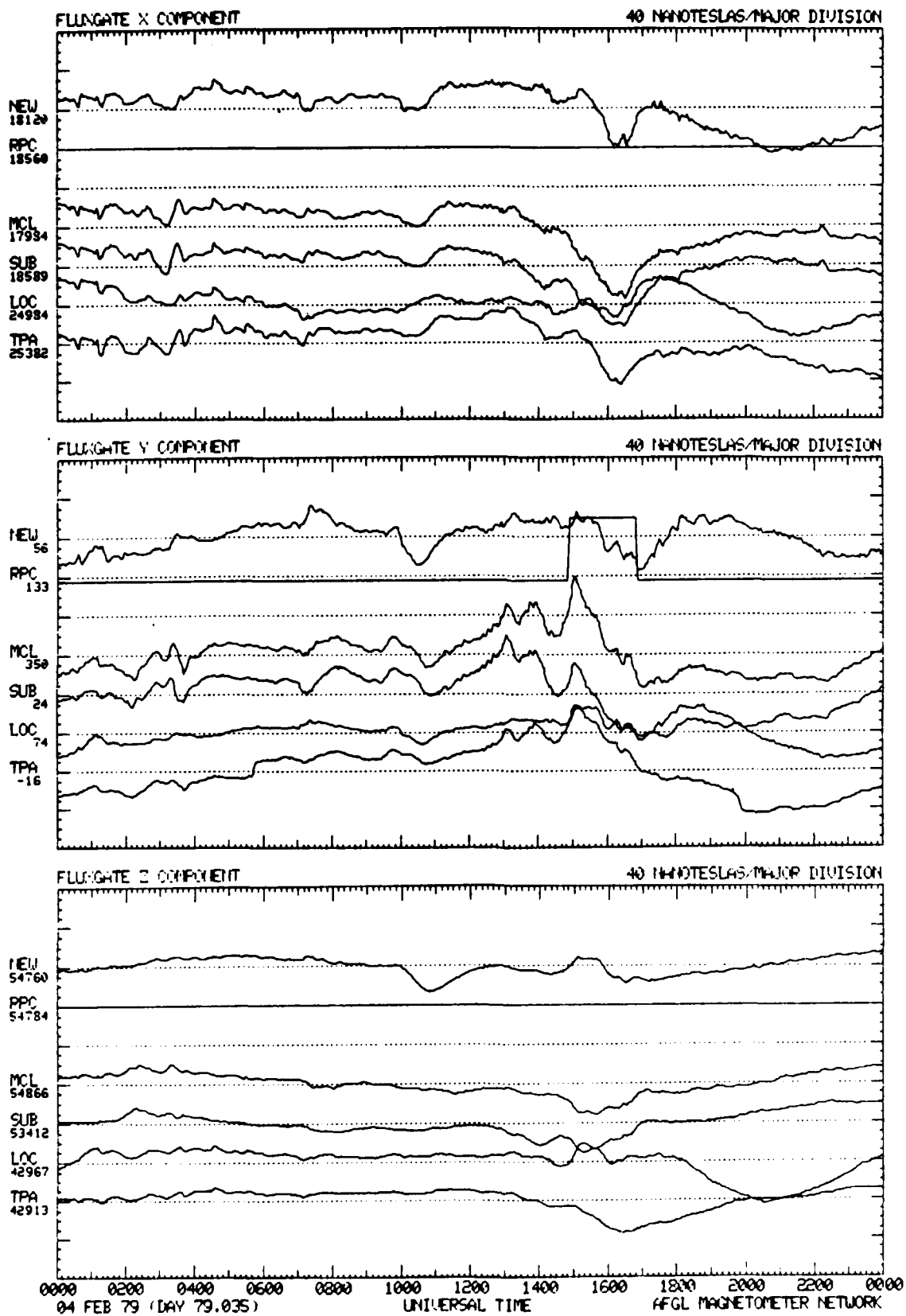


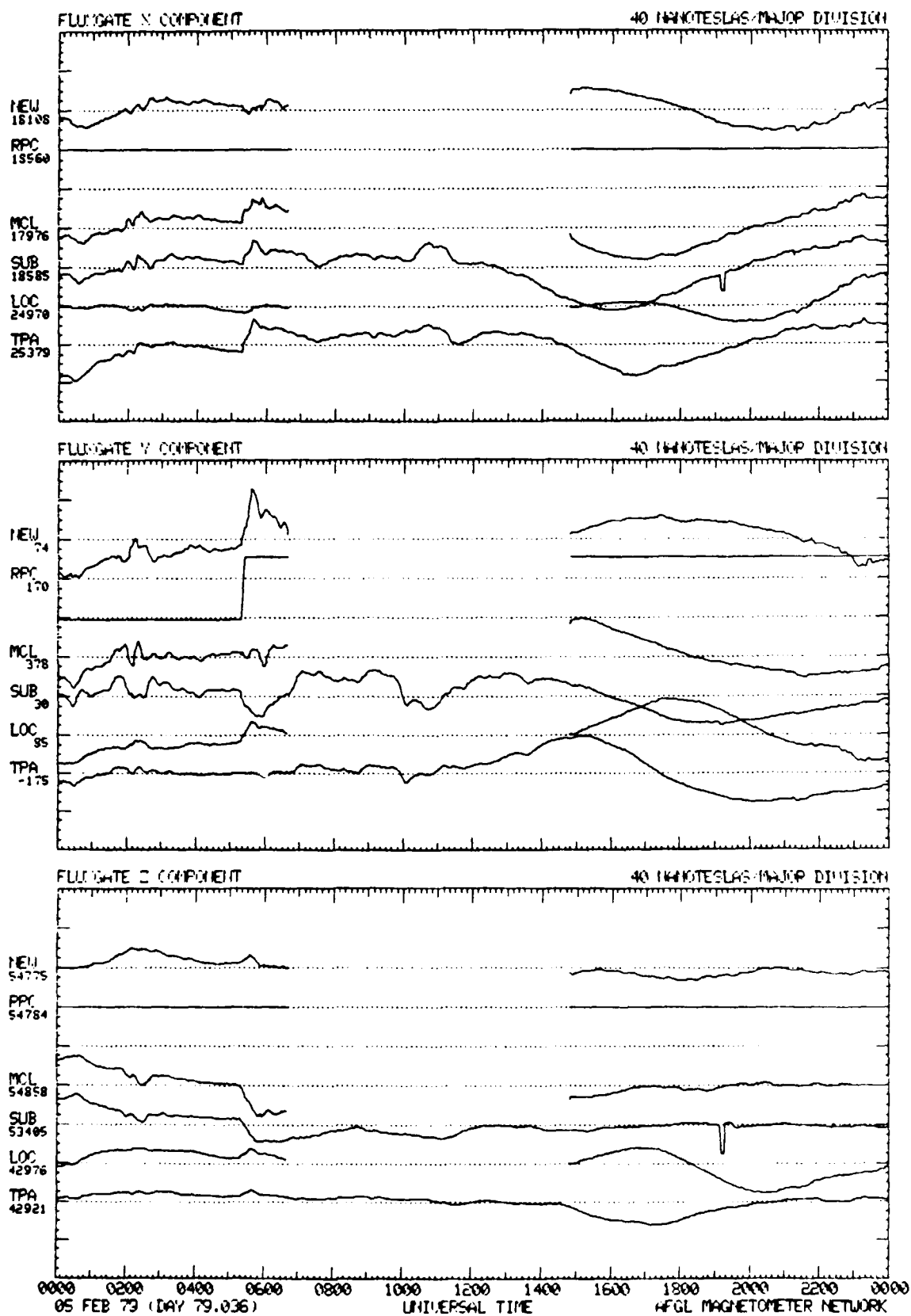


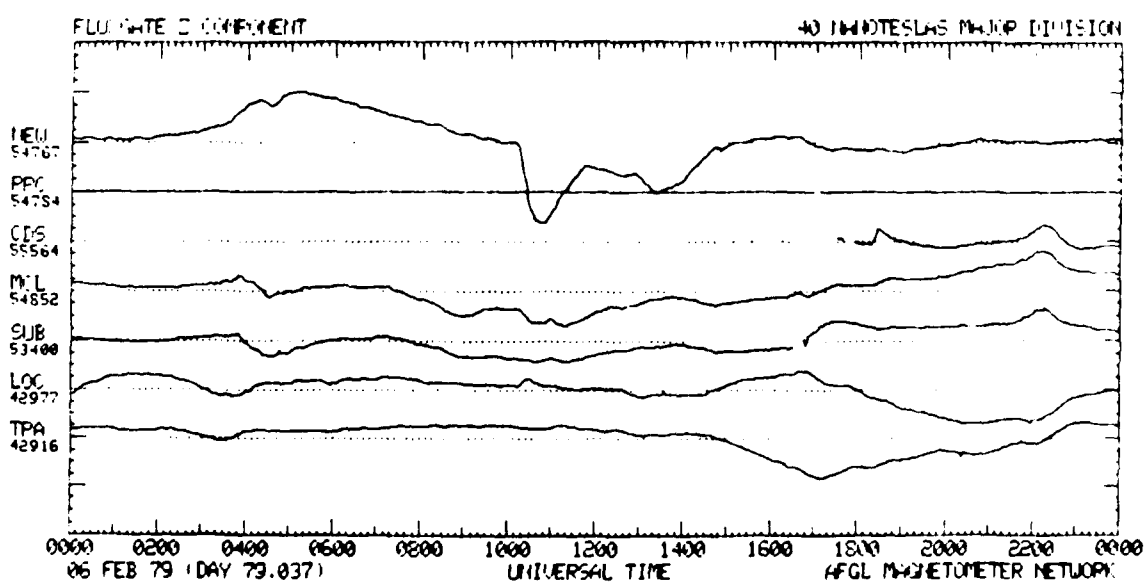
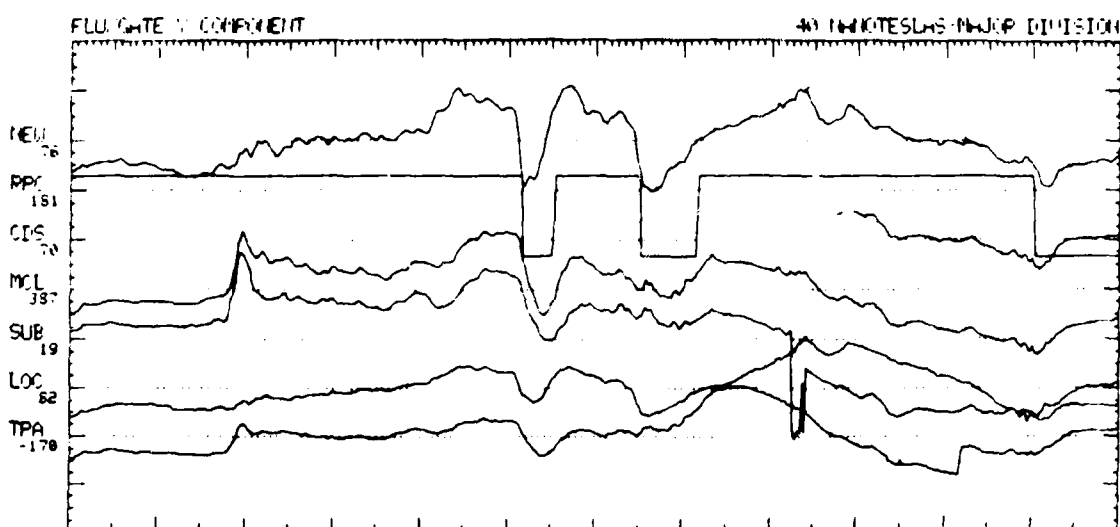
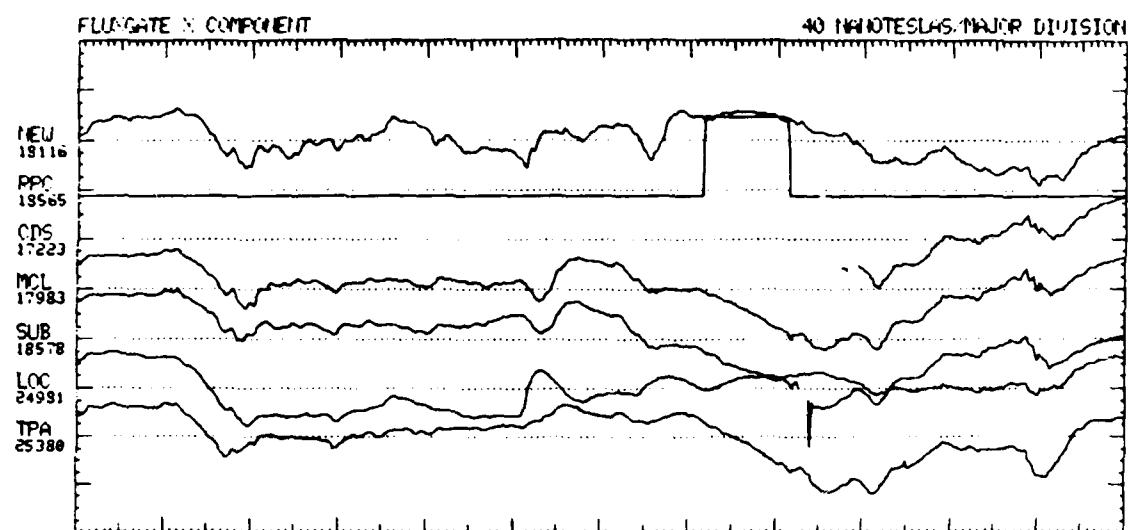


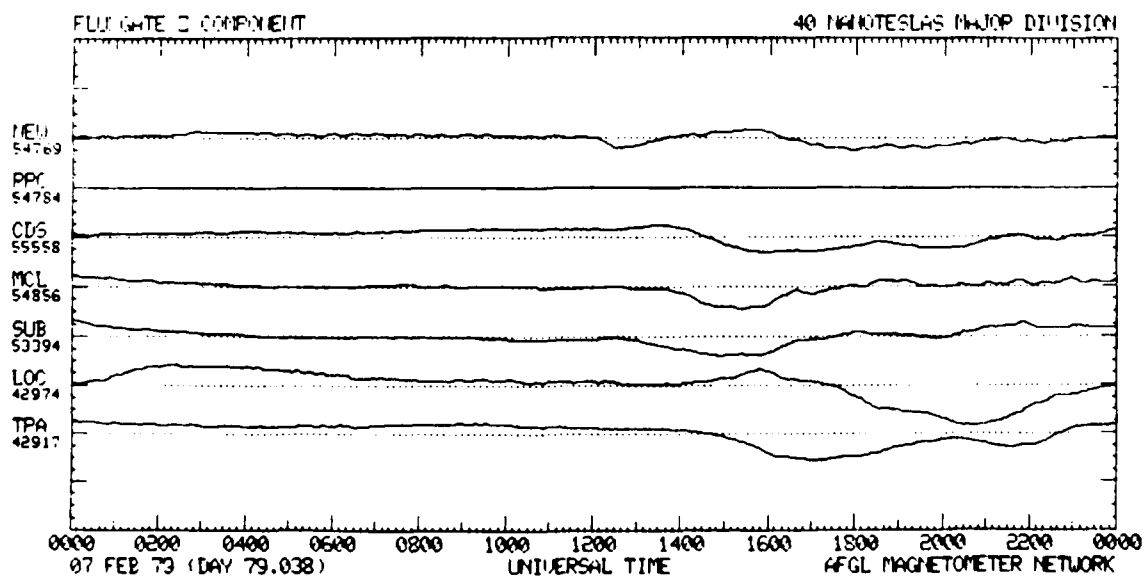
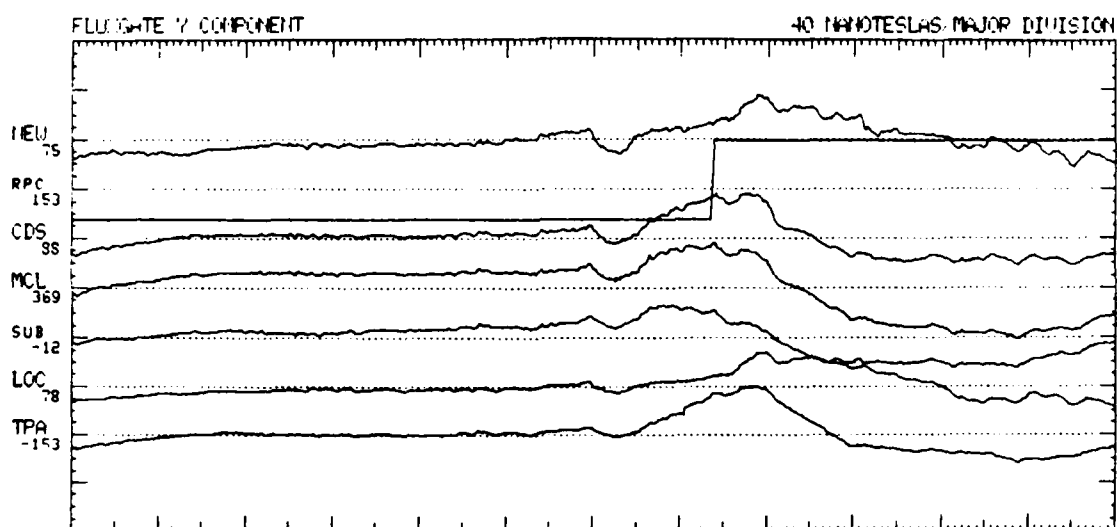
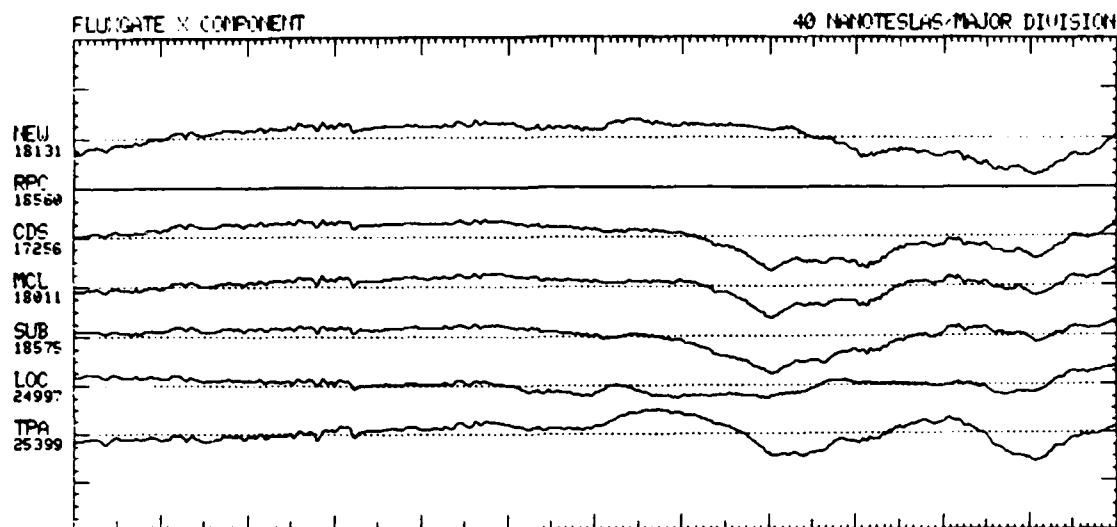


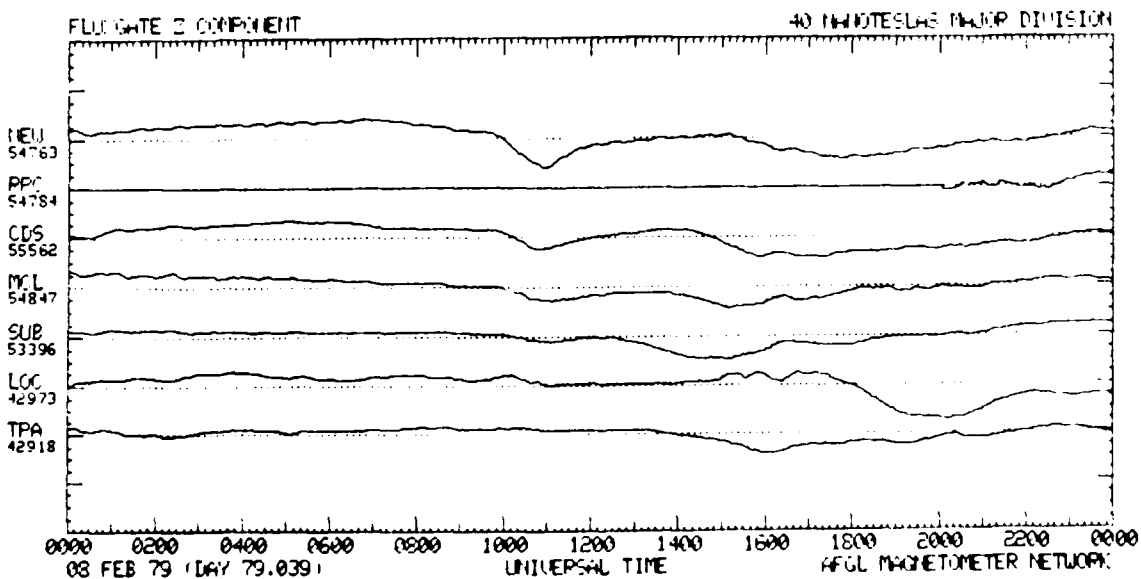
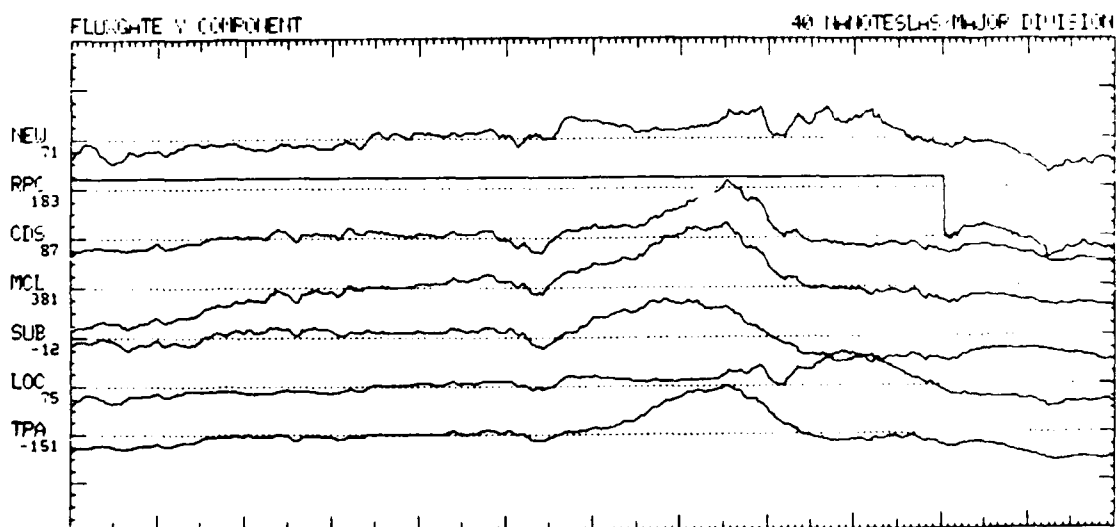
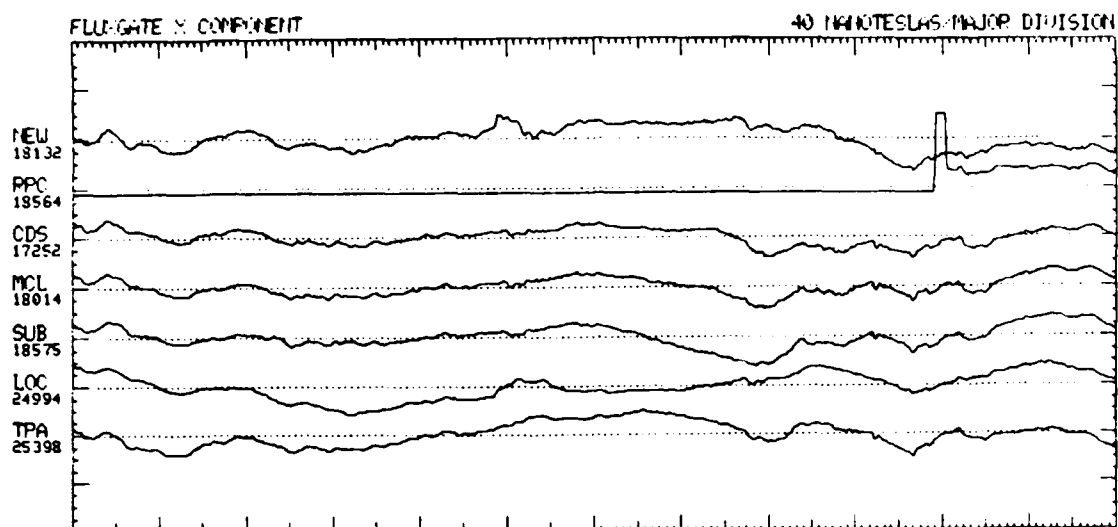


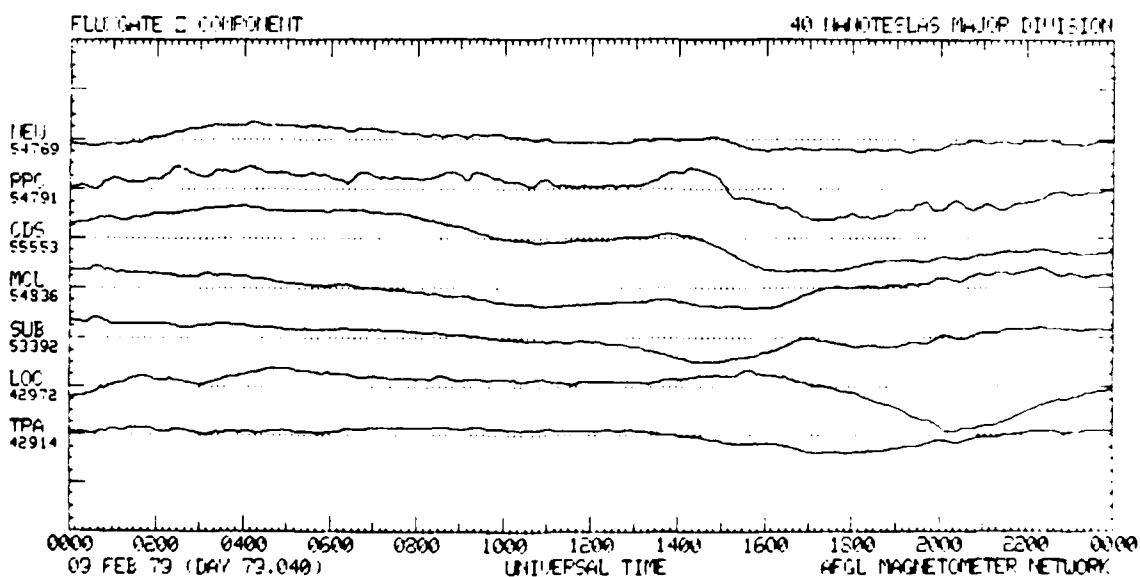
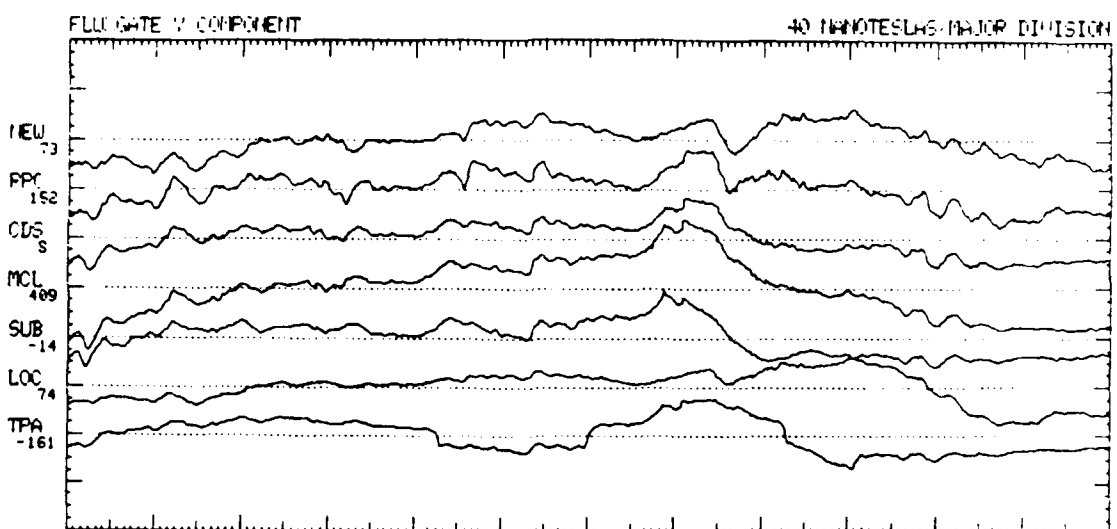
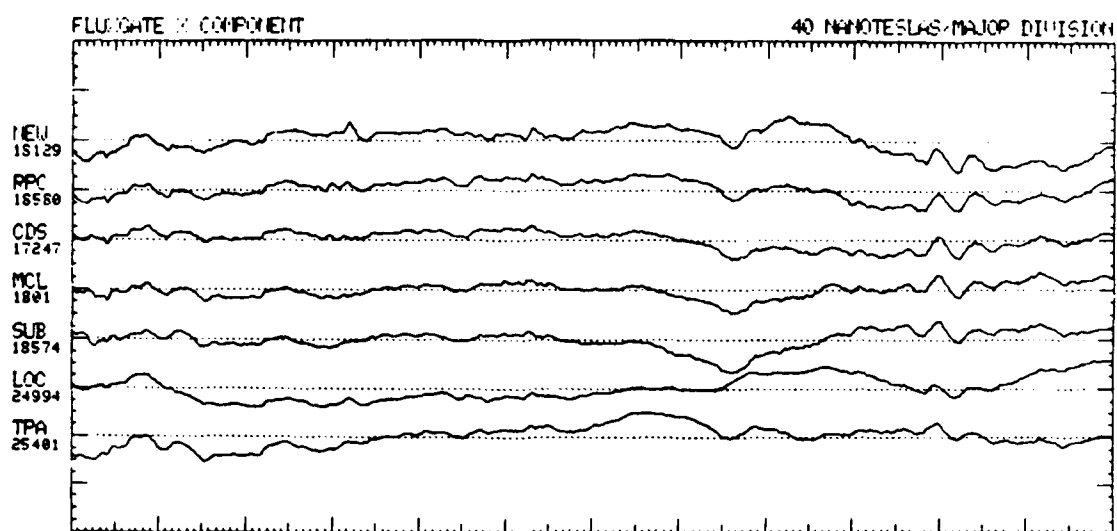








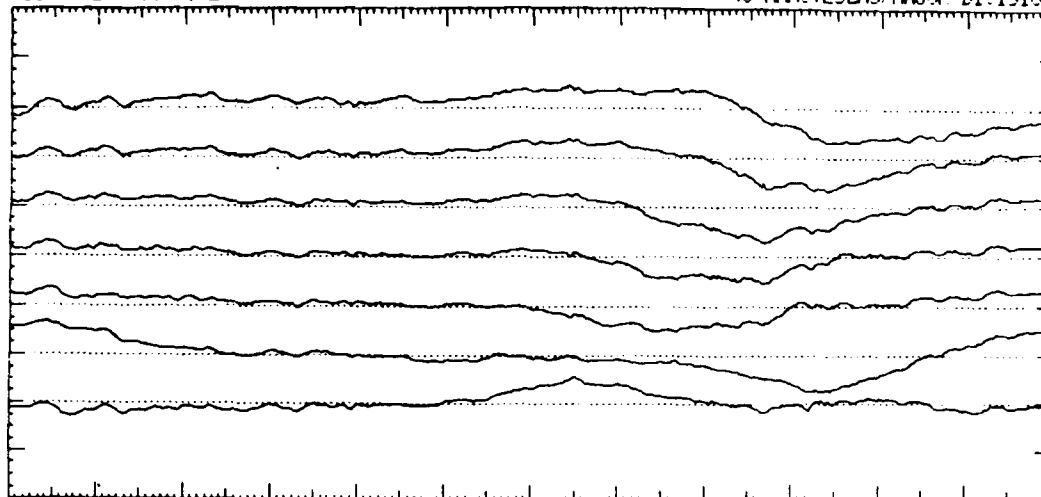




FLIGHT X COMPONENT

40 NANOTESLAS/MAJOR DIVISION

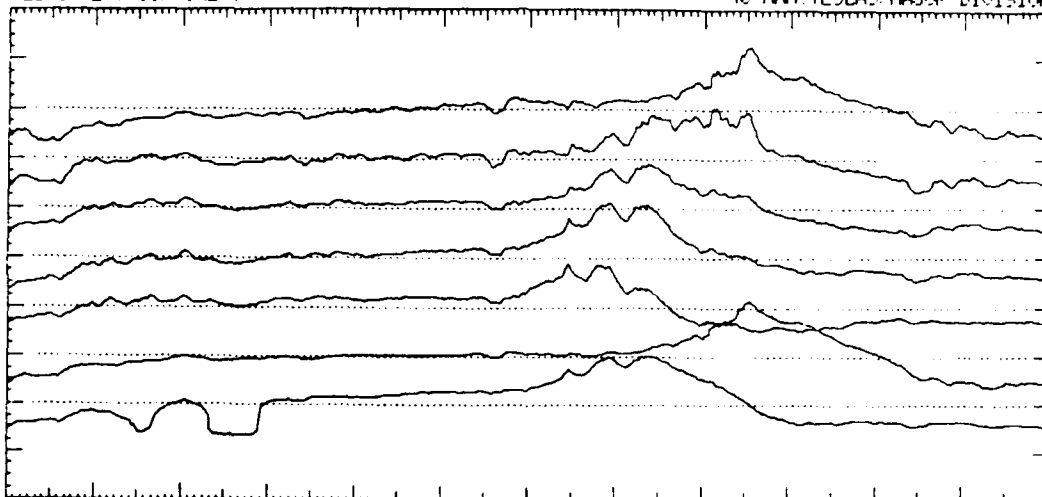
NEW
13132
PPC
18599
CDS
17247
MCL
18021
SUB
18571
LOC
24993
TPA
25405



FLIGHT Y COMPONENT

40 NANOTESLAS/MAJOR DIVISION

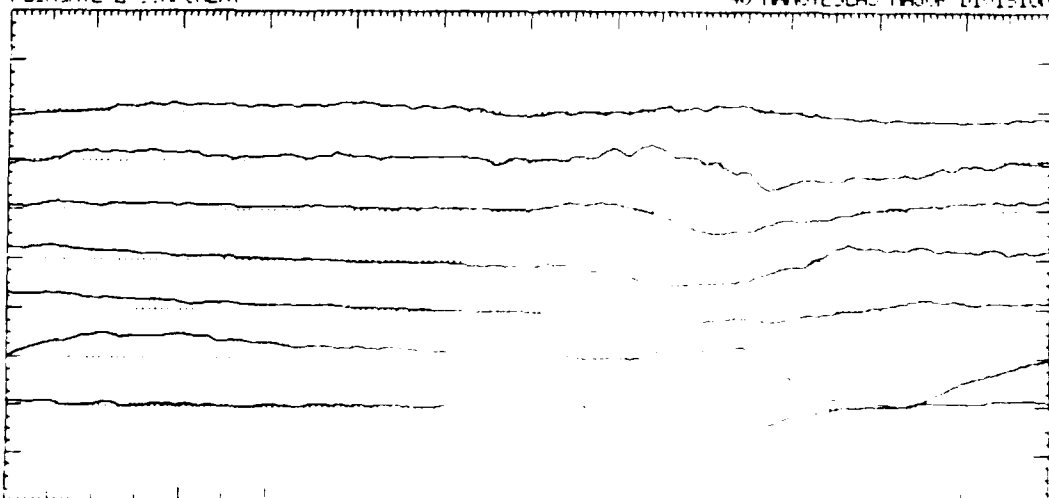
NEW
76
PPC
159
CDS
90
MCL
405
SUB
-14
LOC
77
TPA
-150



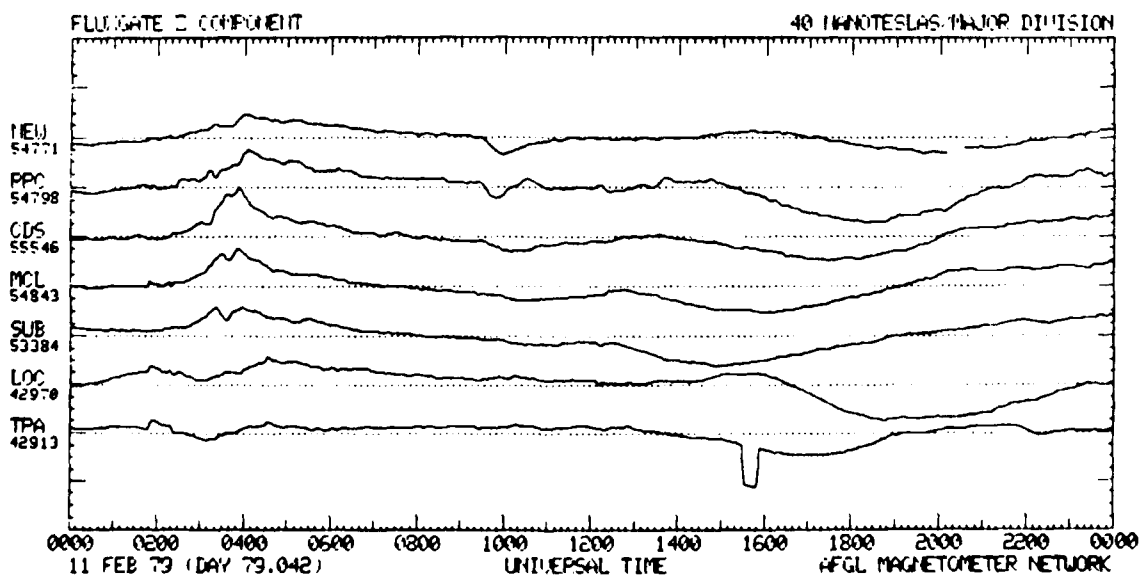
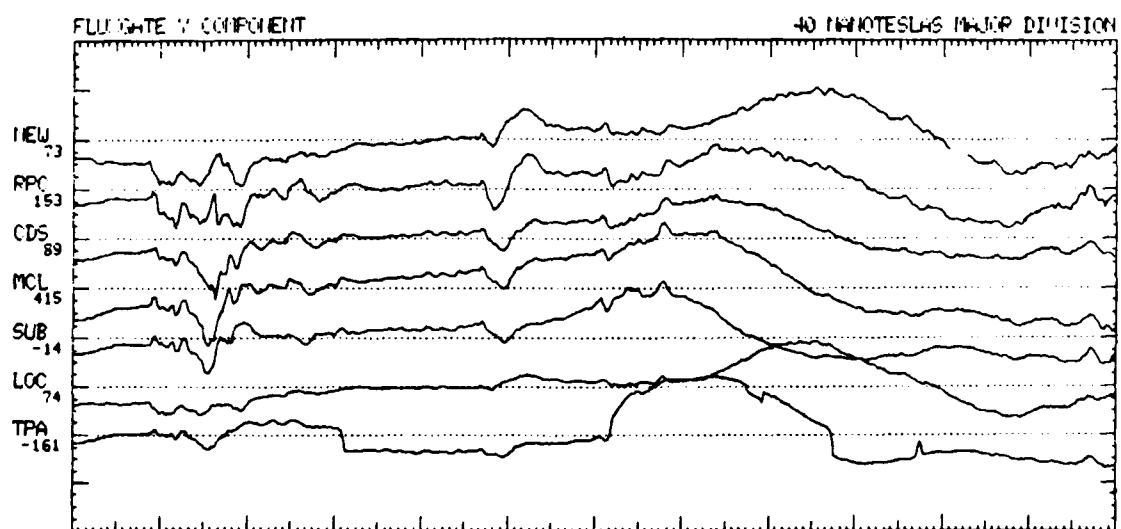
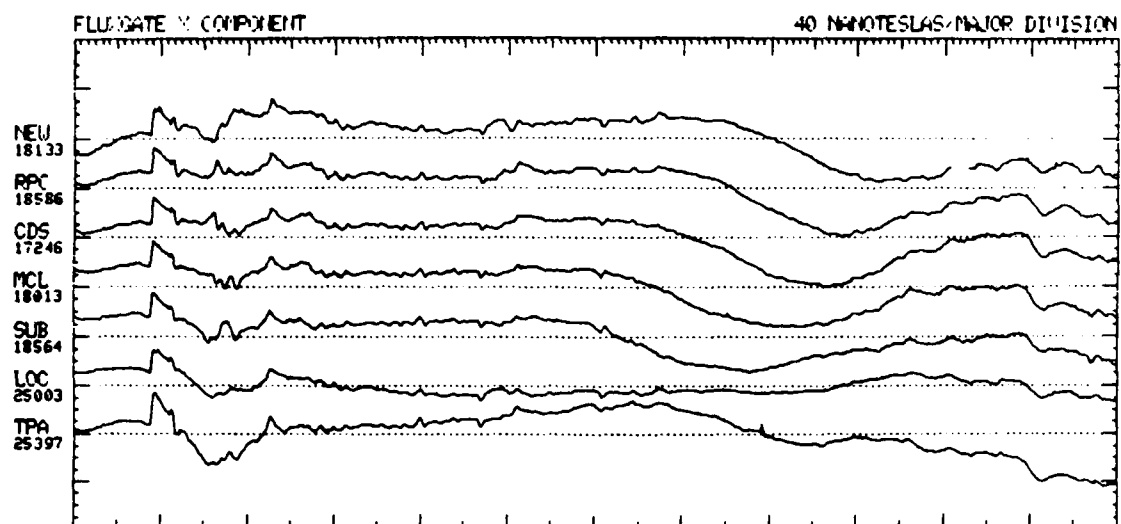
FLIGHT Z COMPONENT

40 NANOTESLAS/MAJOR DIVISION

NEW
54772
PPC
54796
CDS
55538
MCL
54837
SUB
53385
LOC
42970
TPA
42914



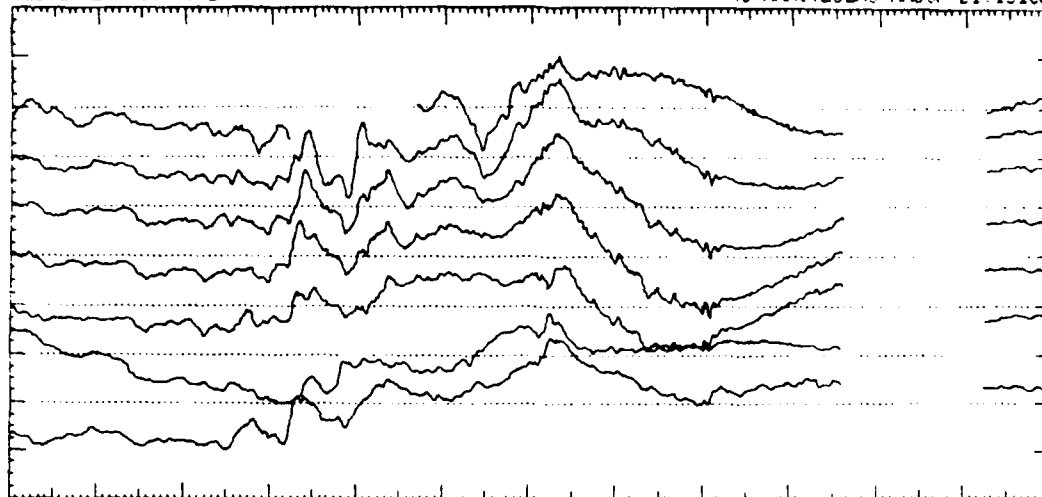
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
10 FEB 79 (DAY 79.041) 1000 HERTZ METEOR NETWORK



FLIGHTLINE X COMPONENT

40 NANOTESLAH/MAJOR DIVISION

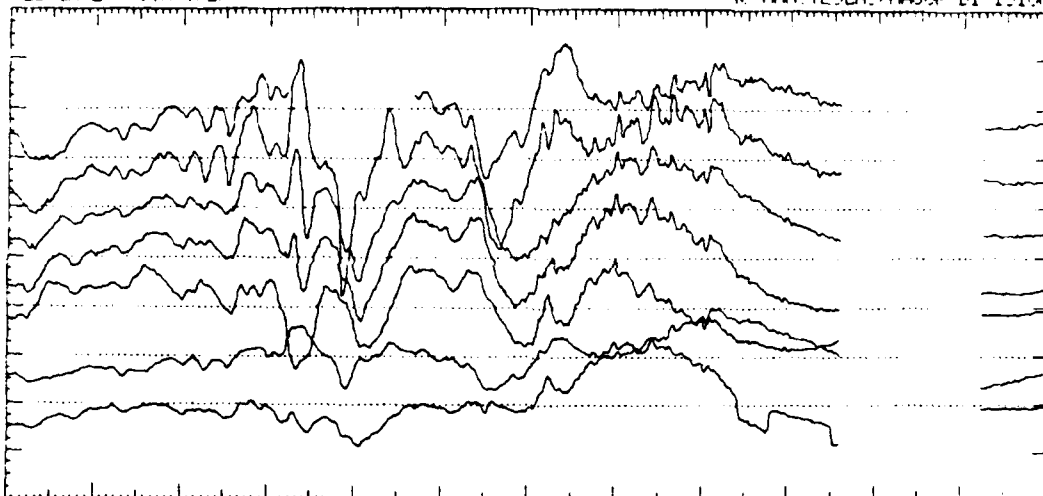
NEW
15111
RPC
13559
CDS
17222
MCL
17954
SUB
18543
LOC
24972
TPA
25382



FLIGHTLINE Y COMPONENT

40 NANOTESLAH/MAJOR DIVISION

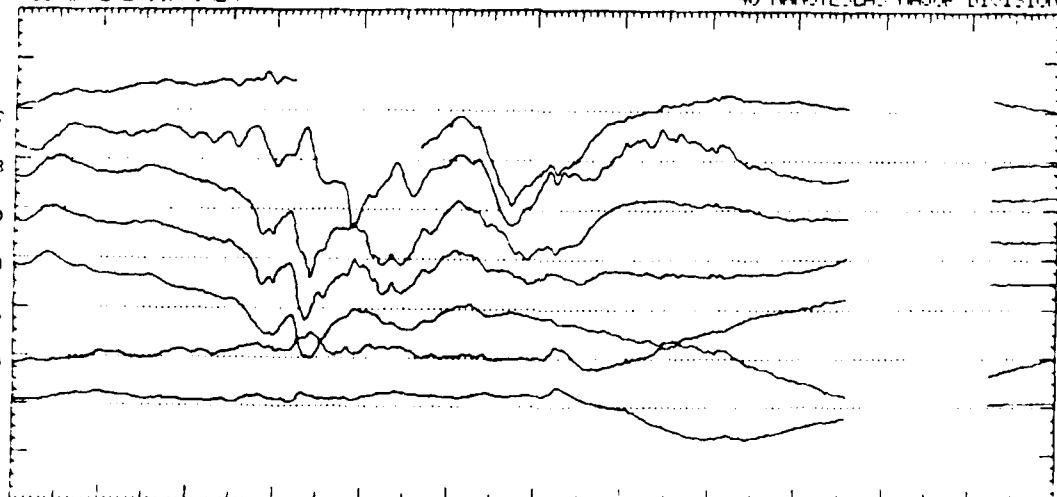
NEW
84
RPC
171
CDS
103
MCL
412
SUB
-16
LOC
84
TPA
-166



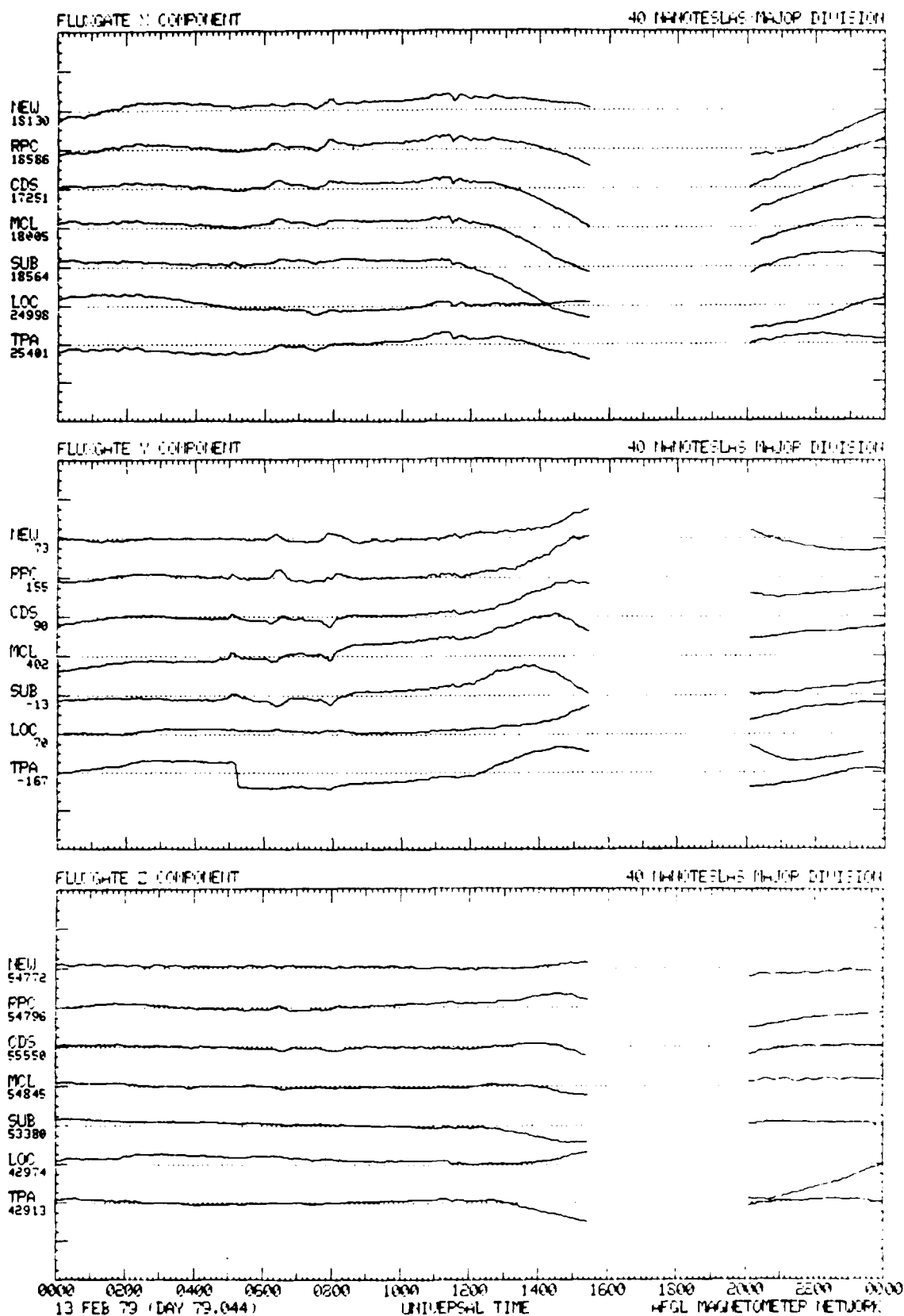
FLIGHTLINE Z COMPONENT

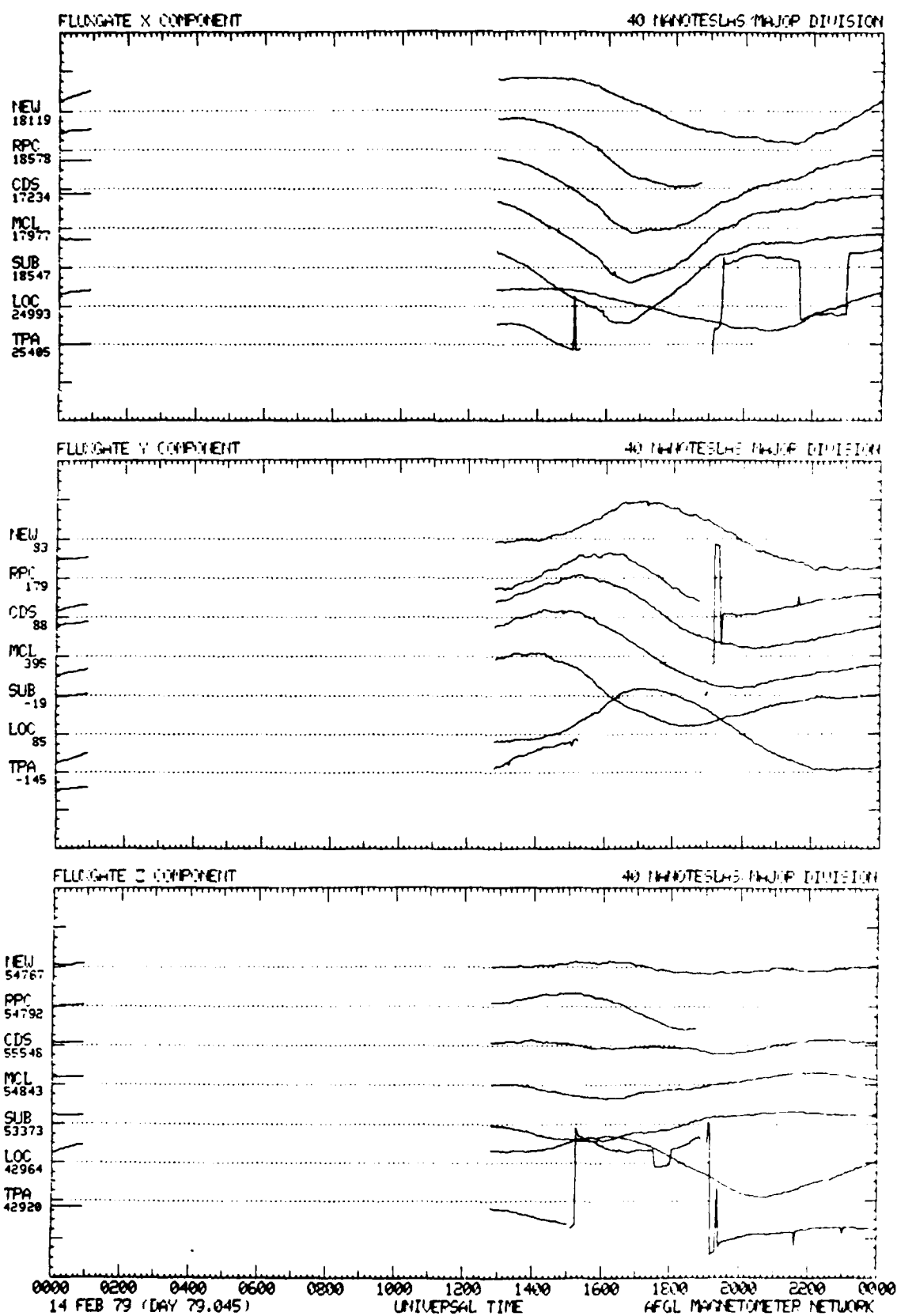
40 NANOTESLAH/MAJOR DIVISION

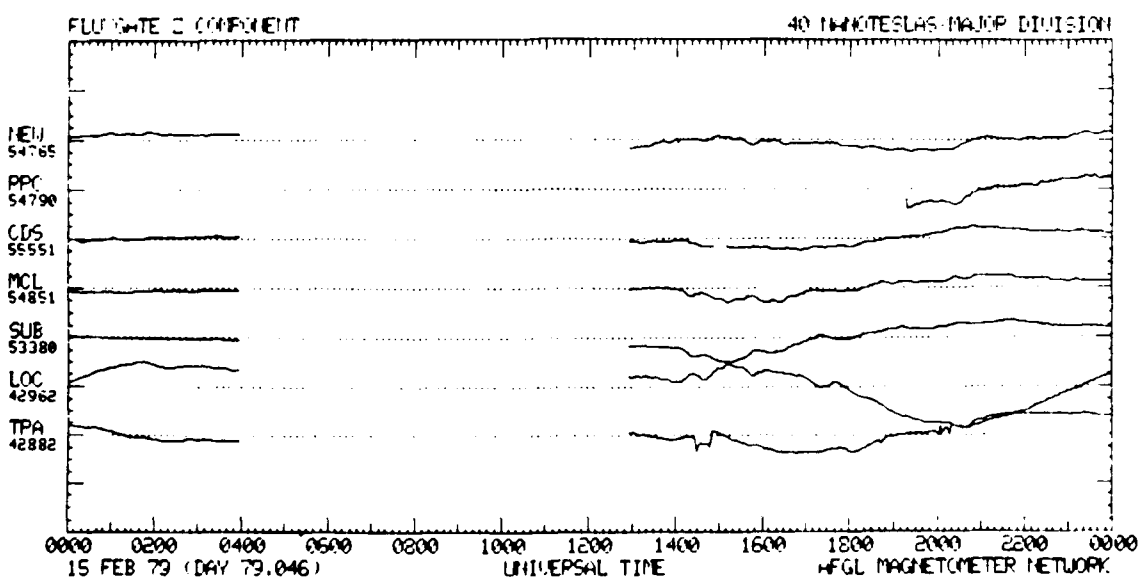
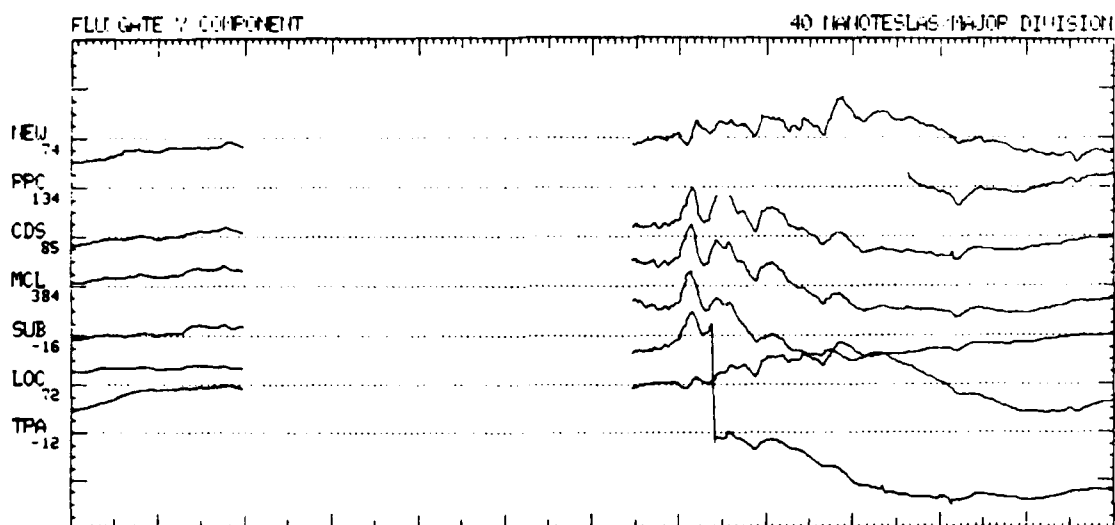
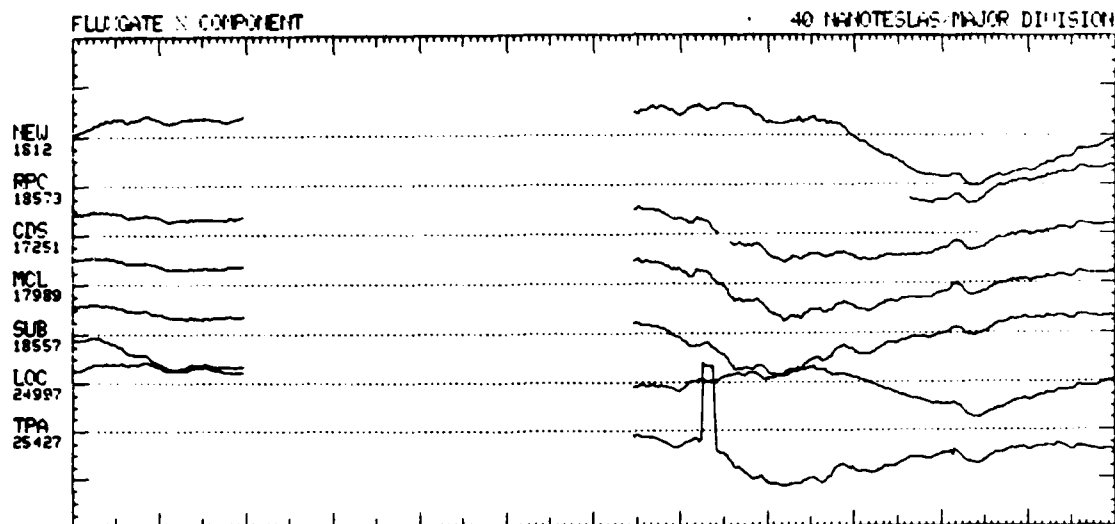
NEW
54727
RPC
54798
CDS
55540
MCL
54833
SUB
53366
LOC
42979
TPA
42913

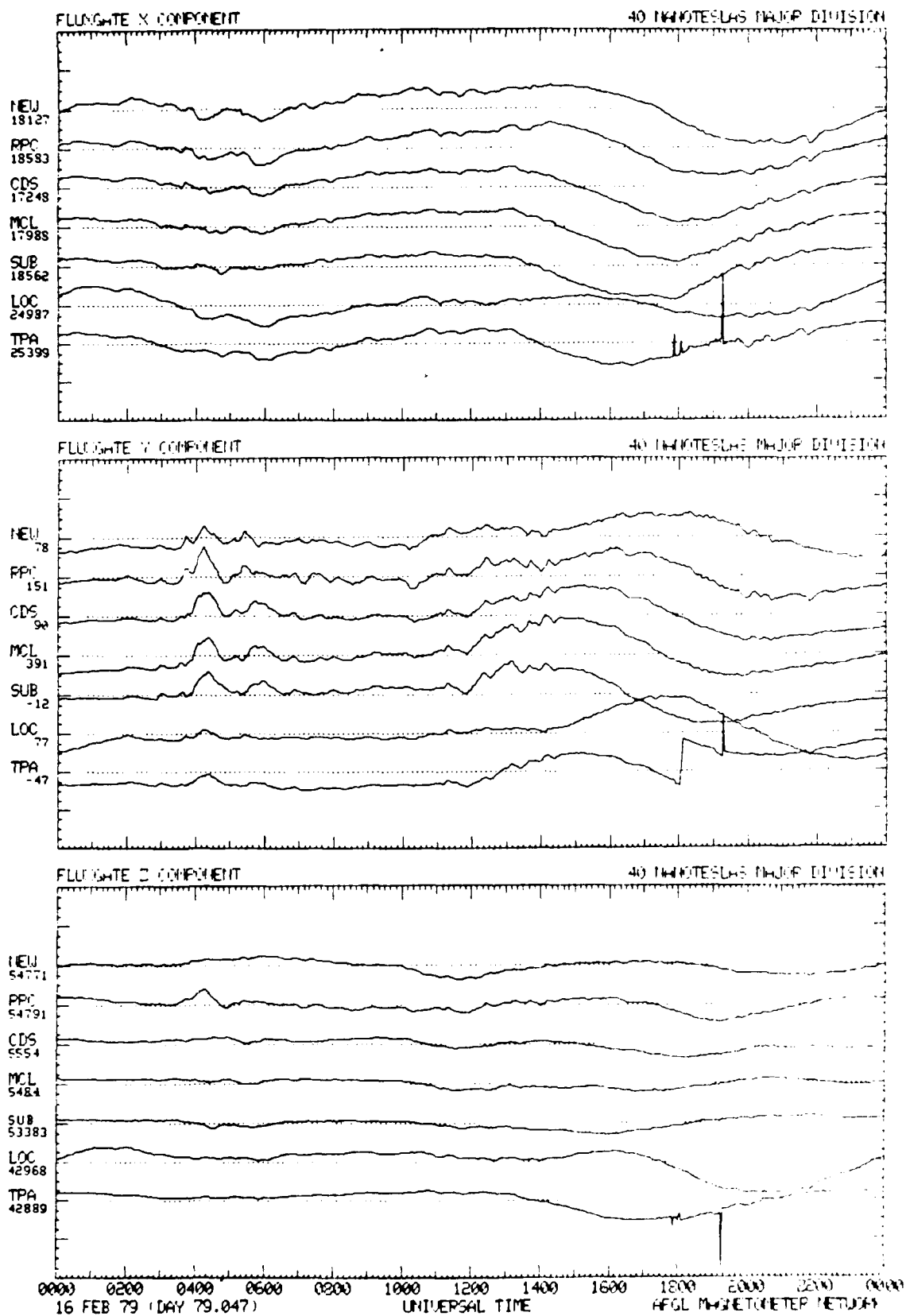


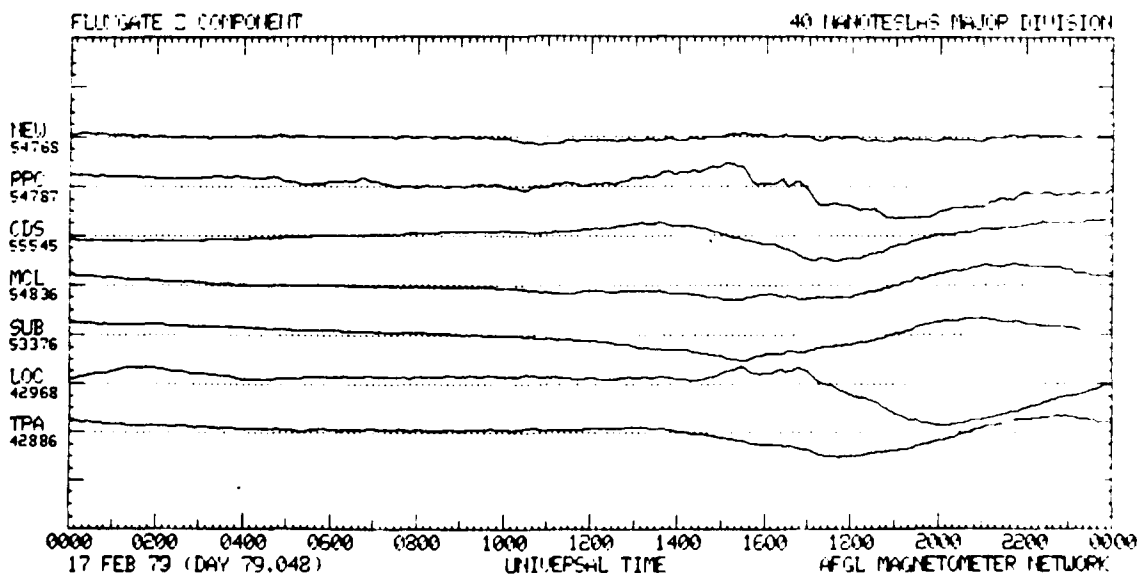
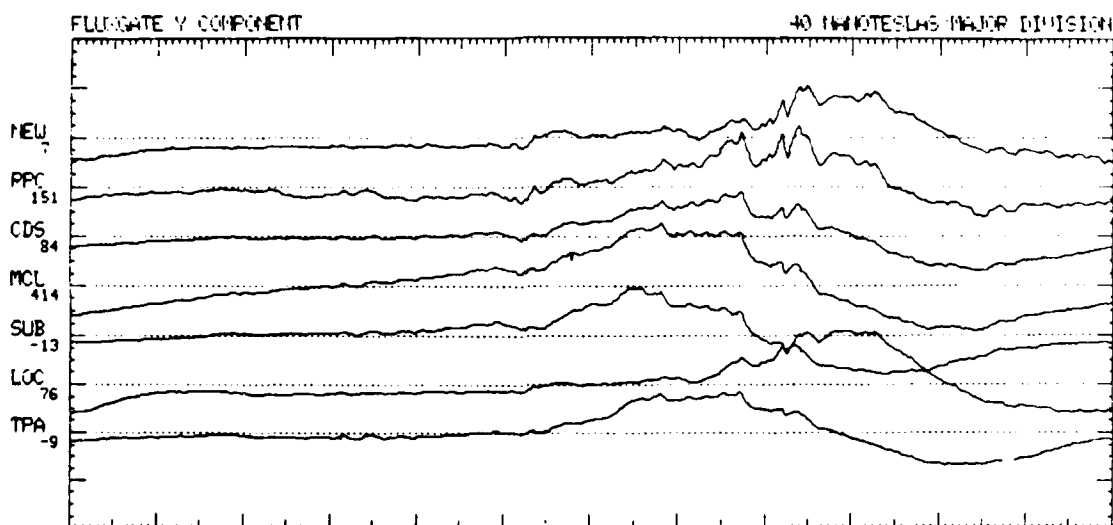
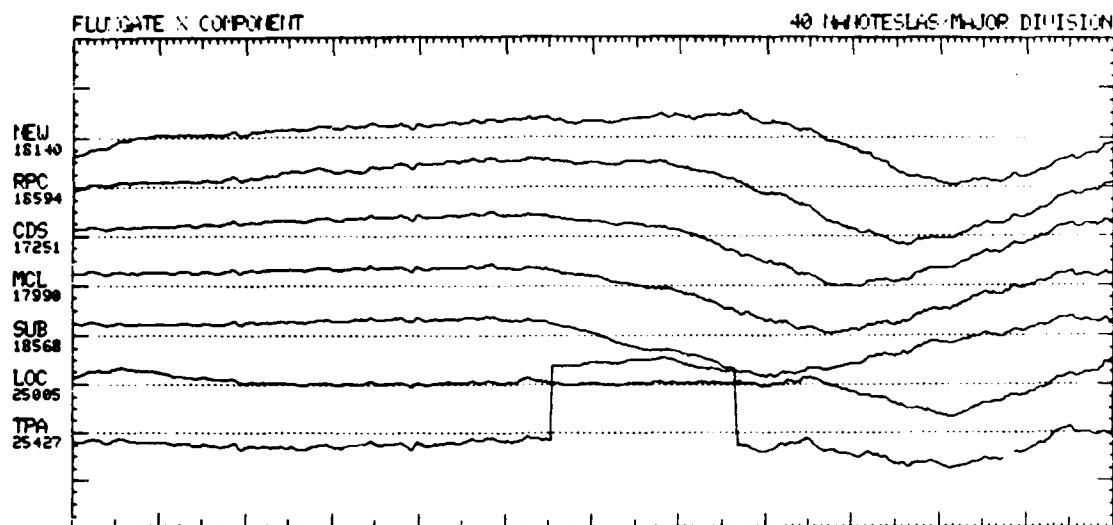
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
12 FEB 79 (DAY 79.043) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

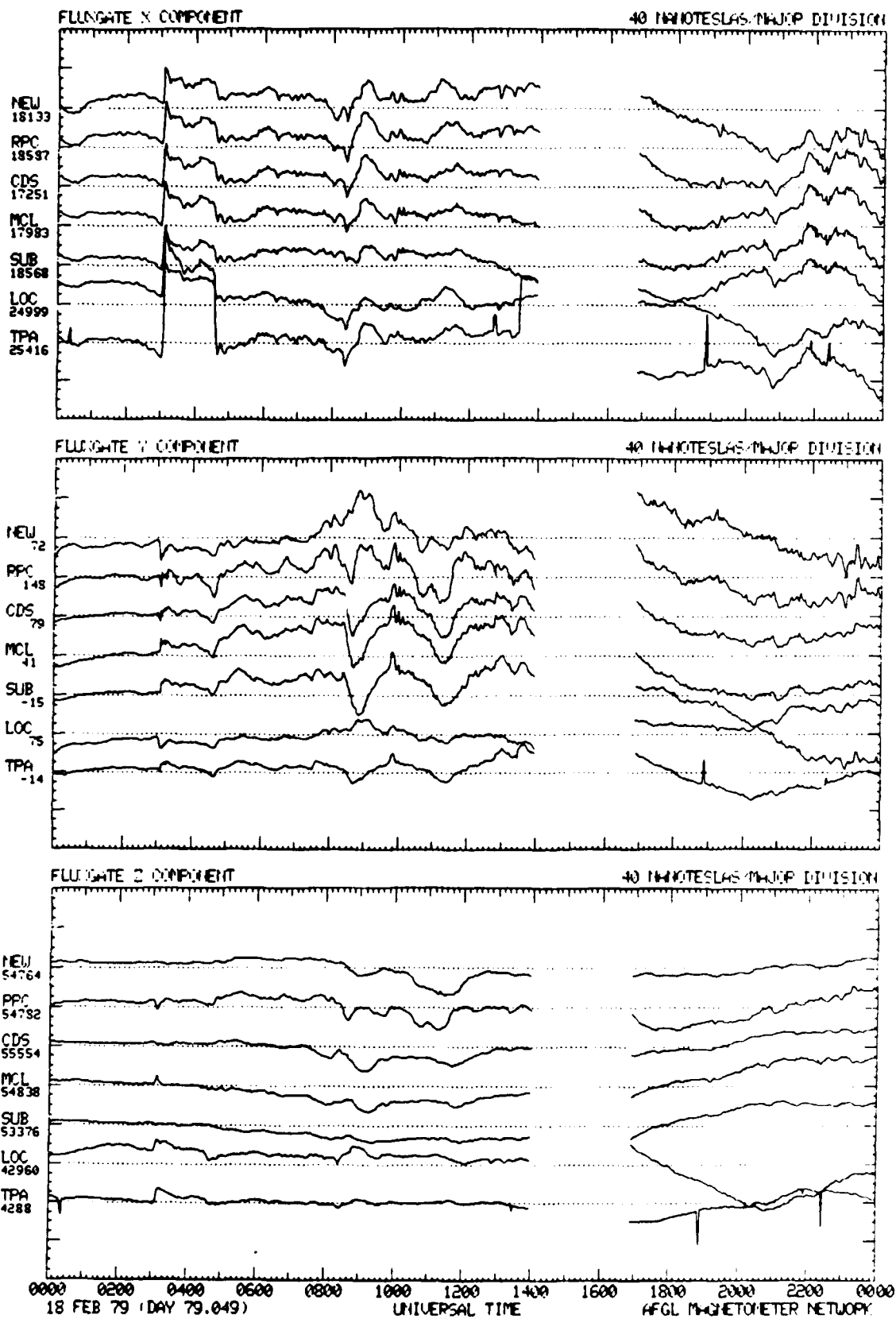


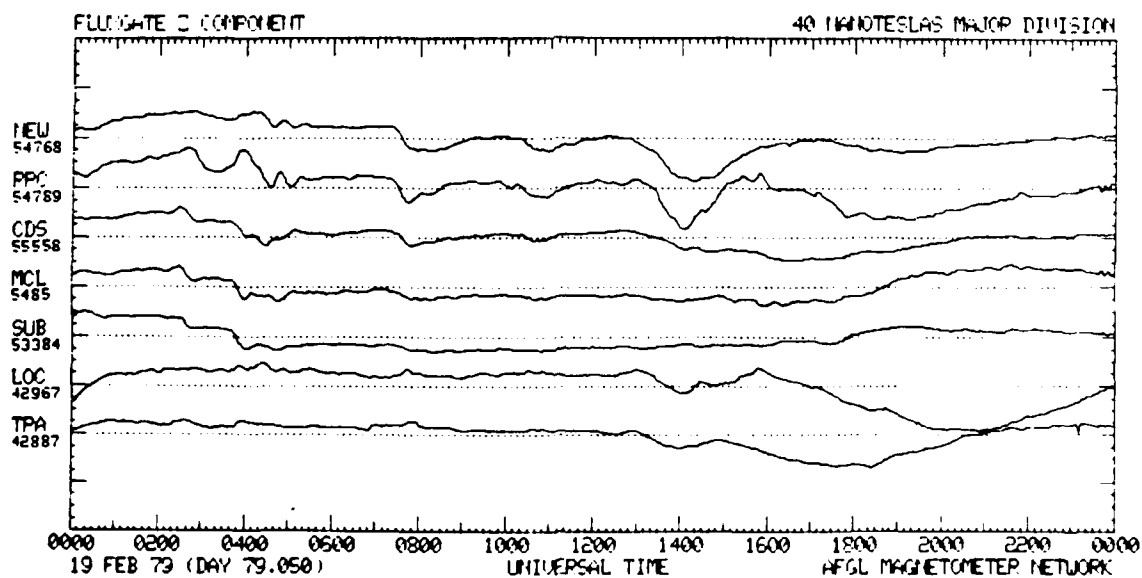
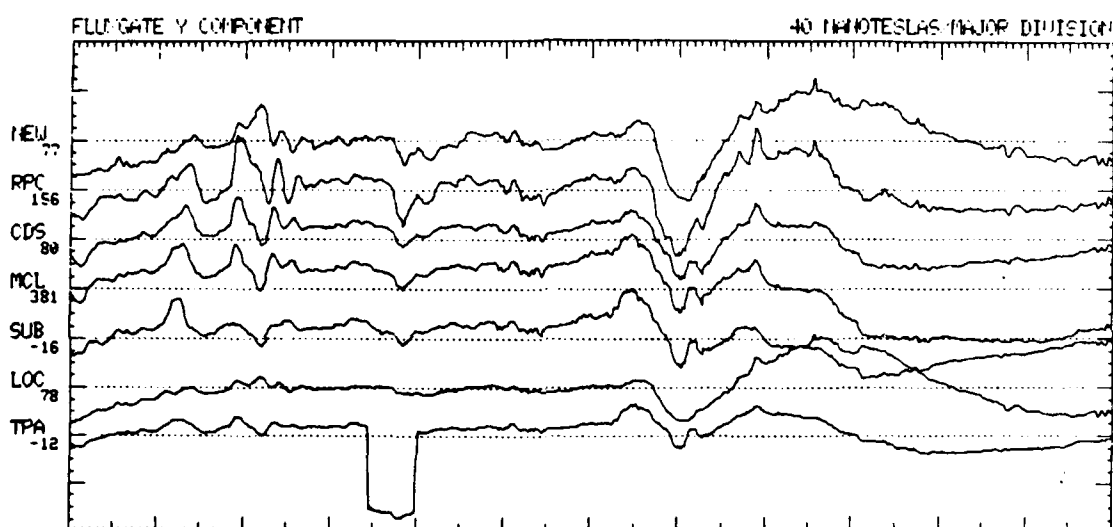
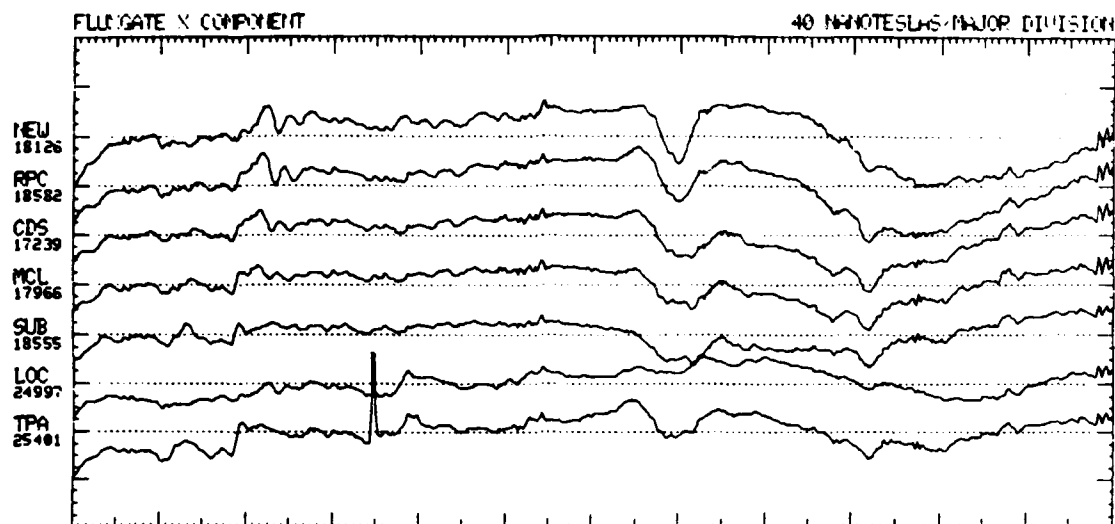


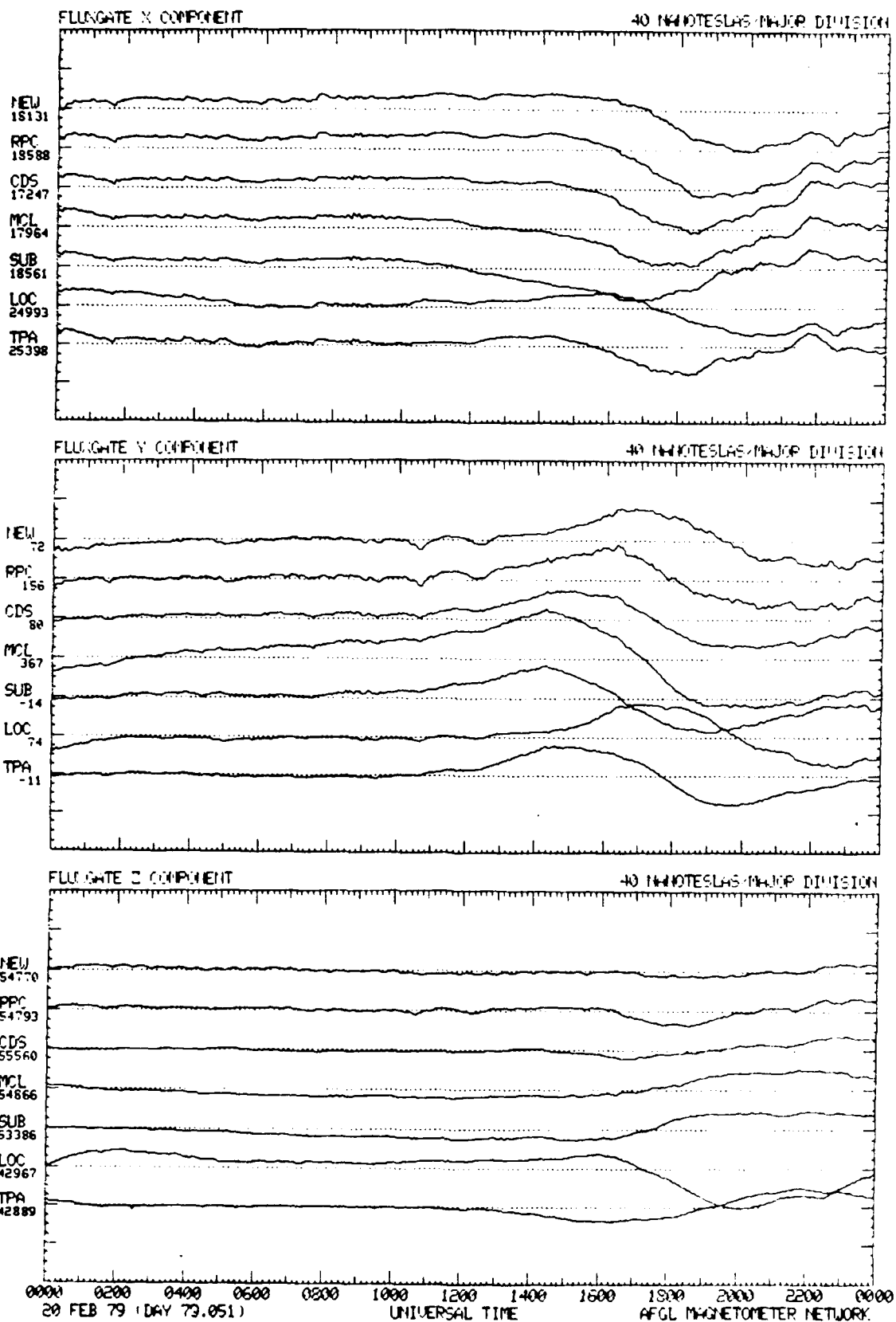


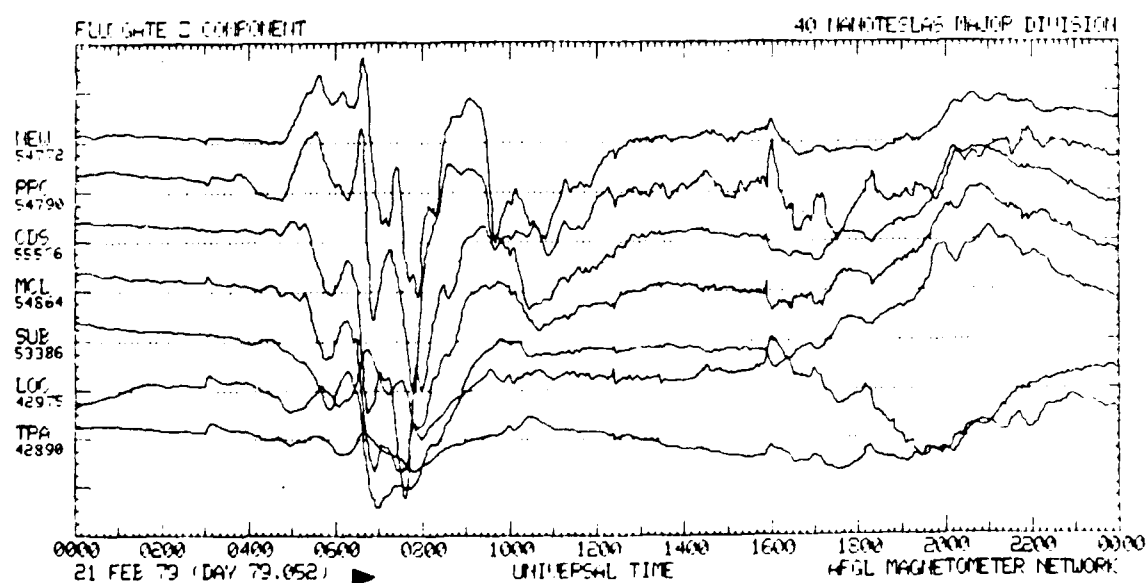
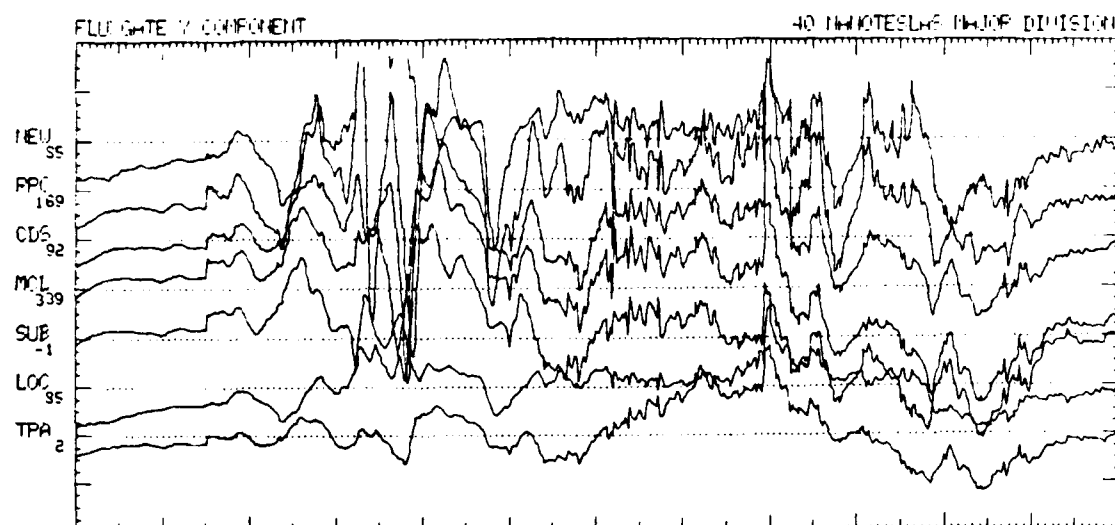
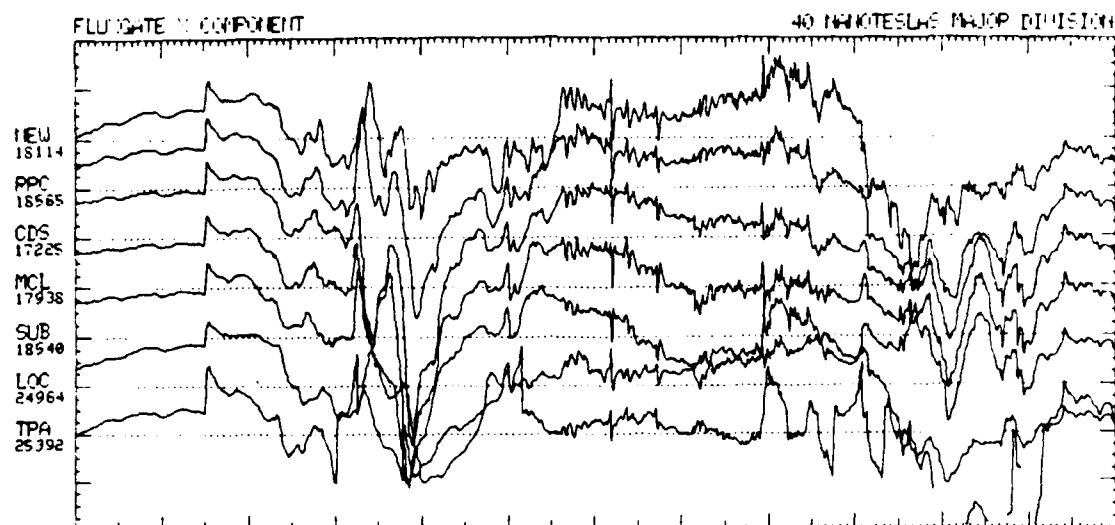


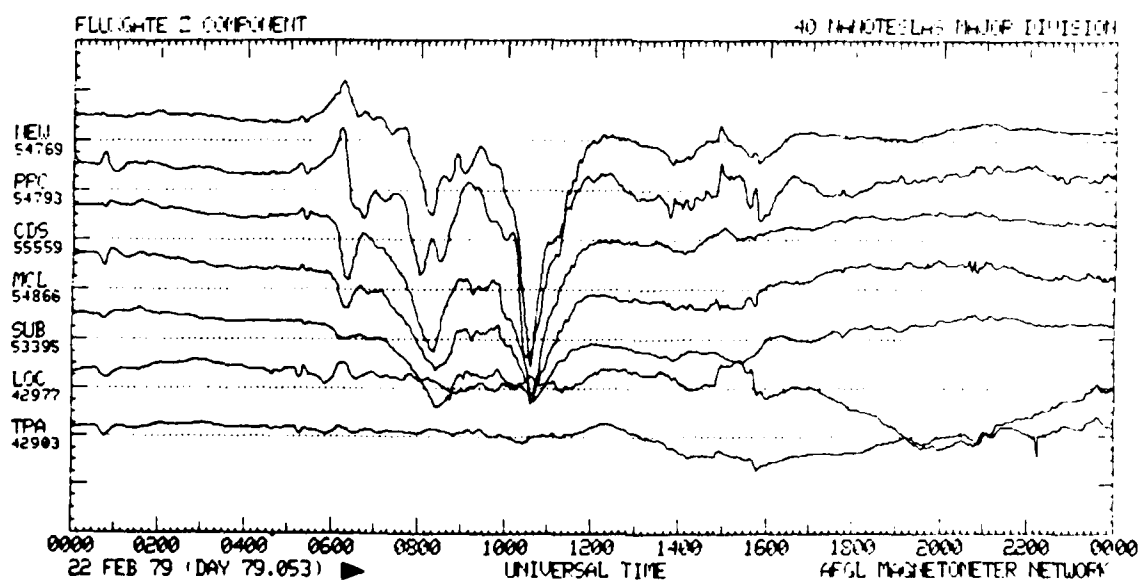
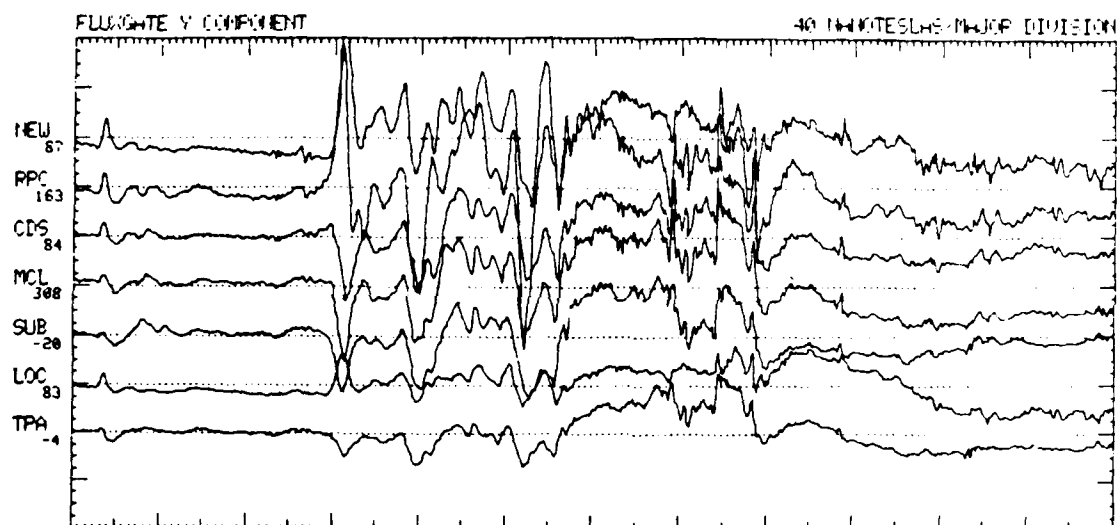
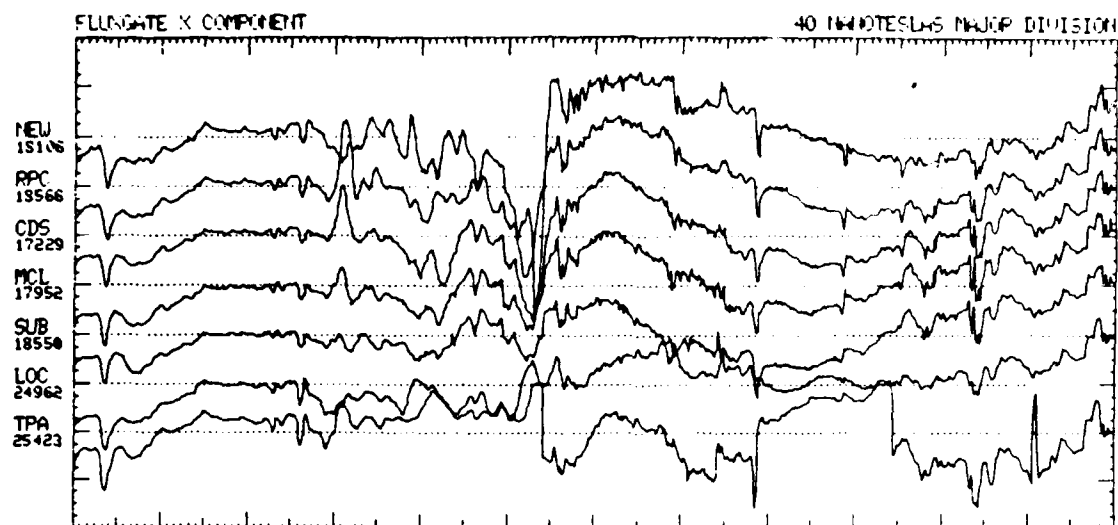


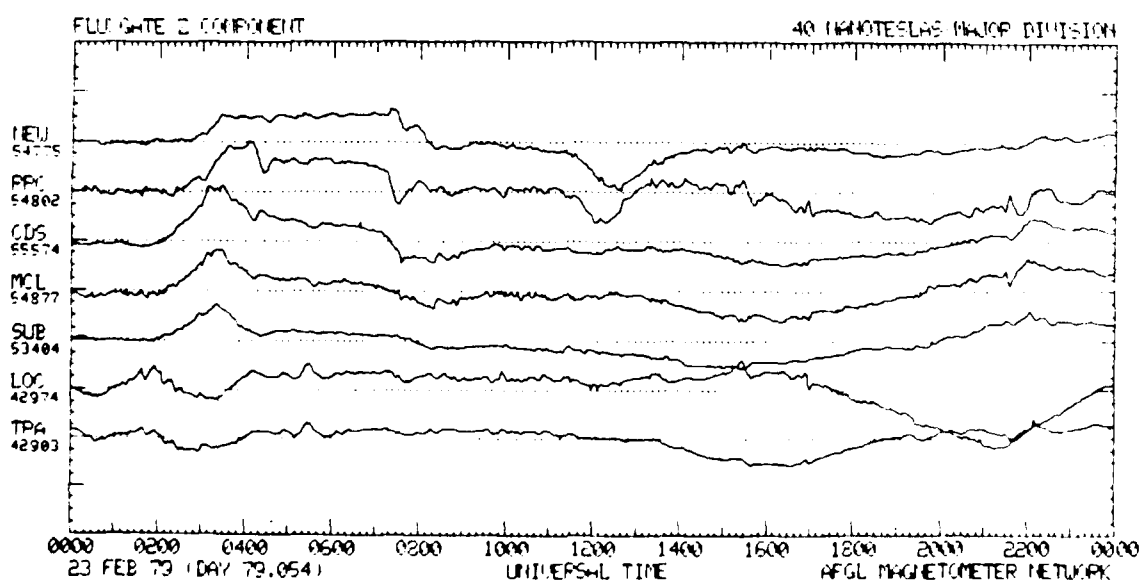
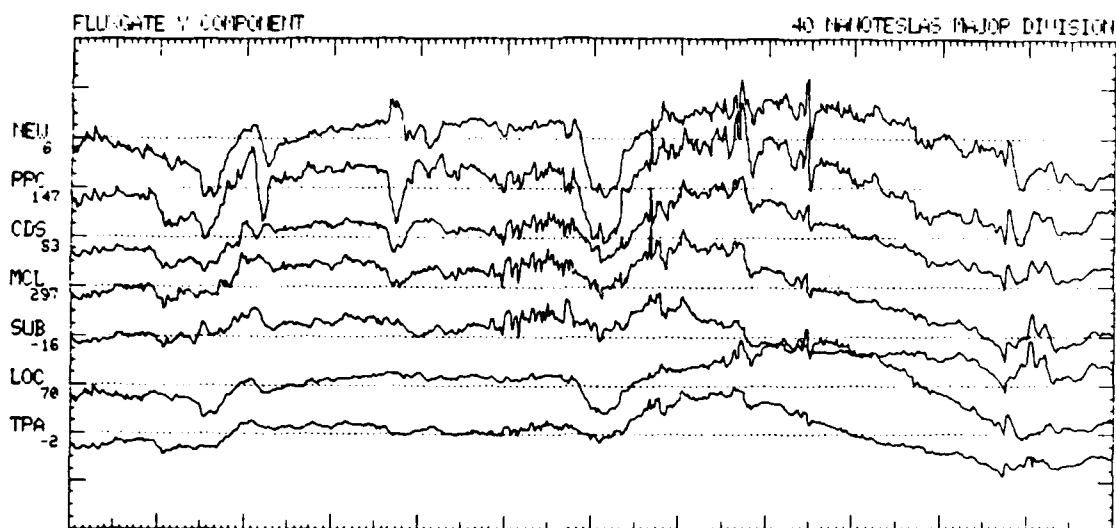
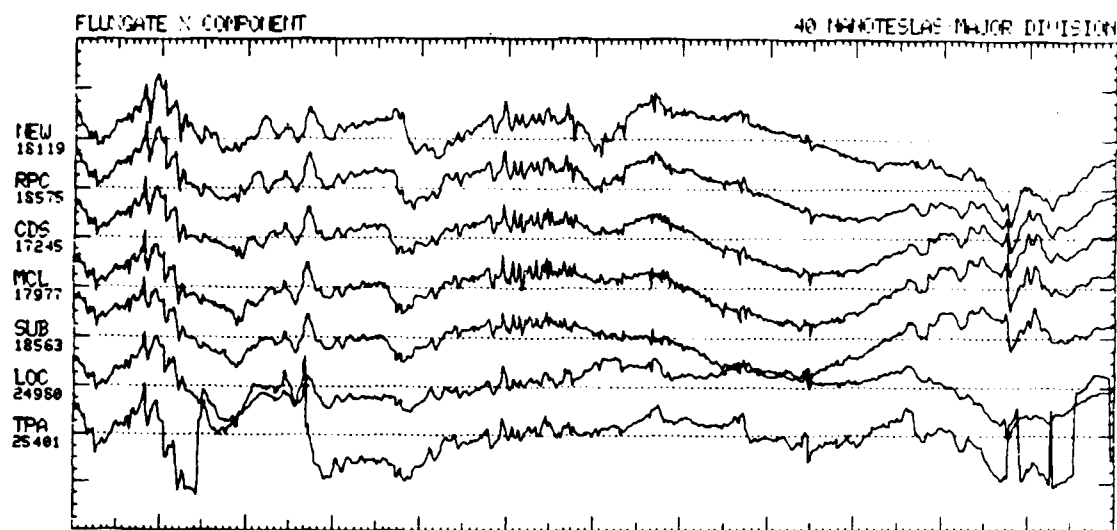


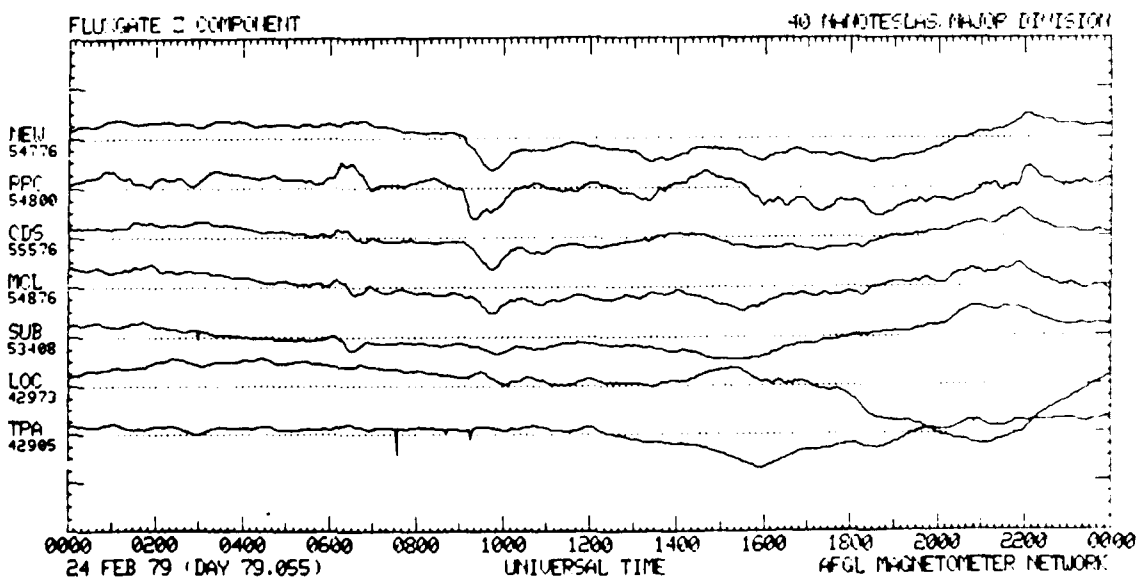
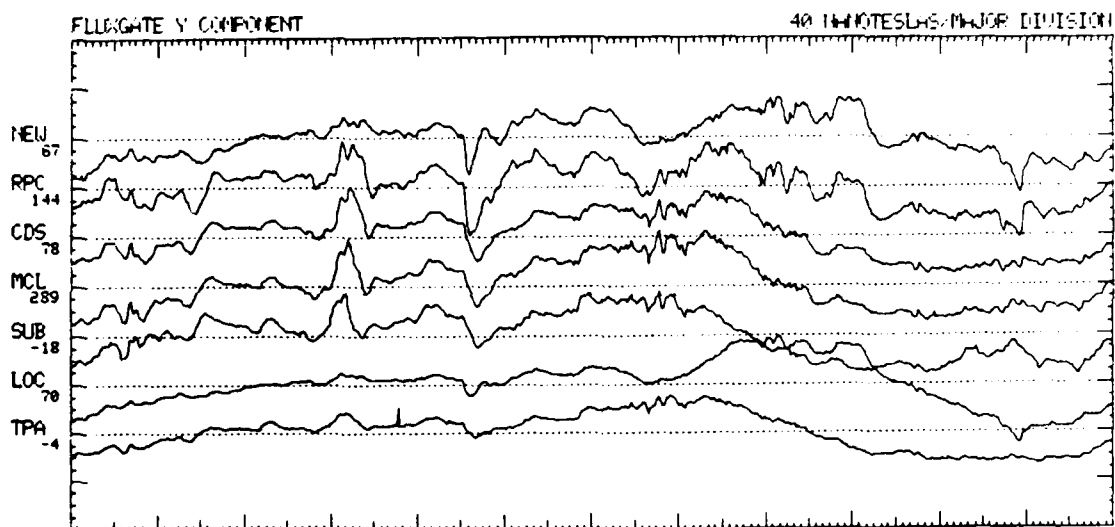
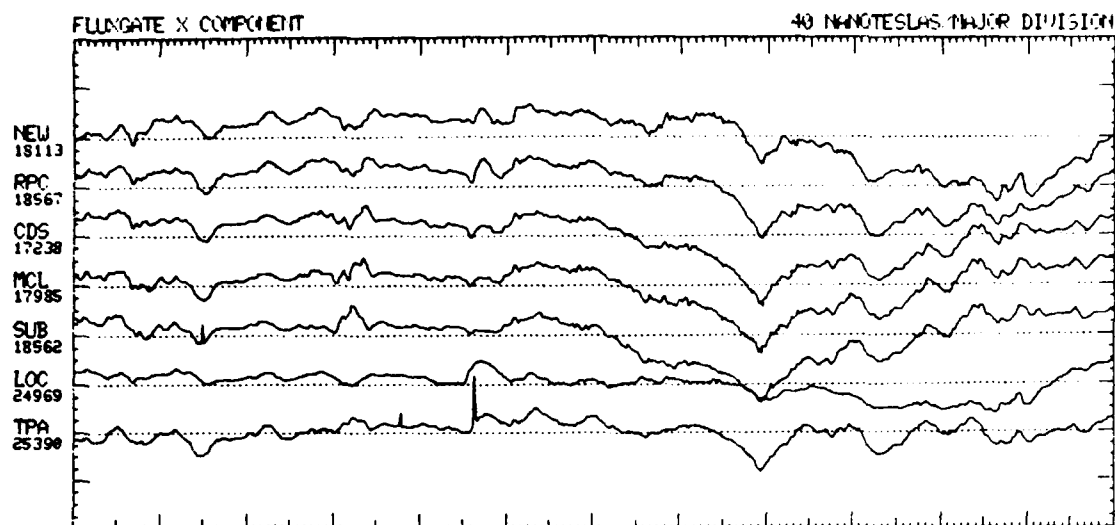


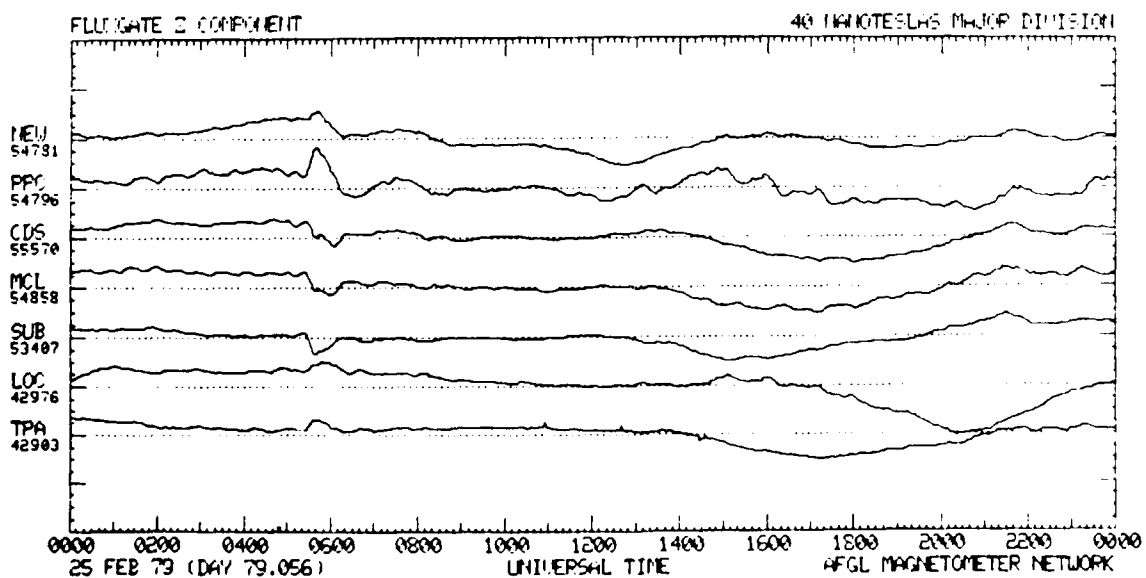
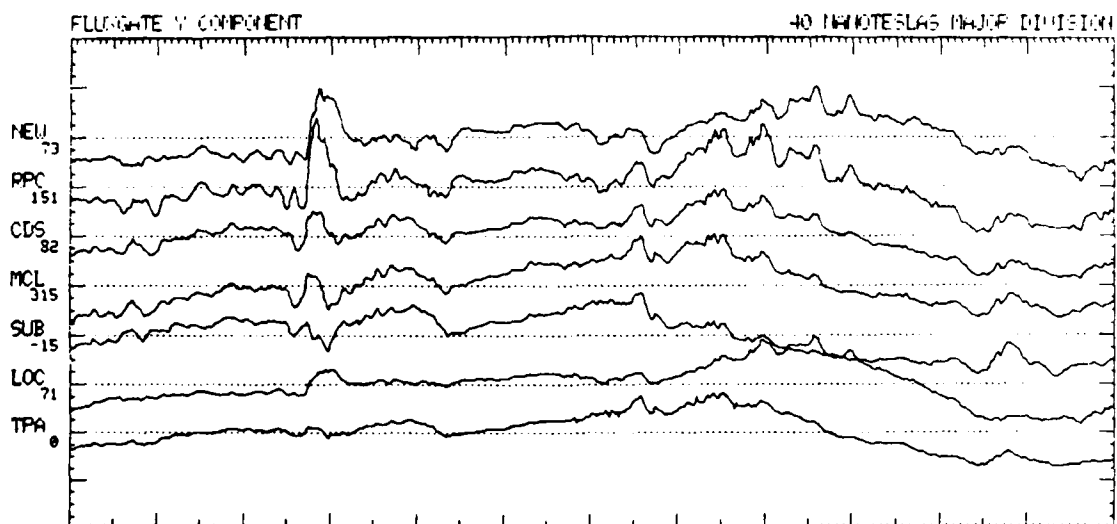
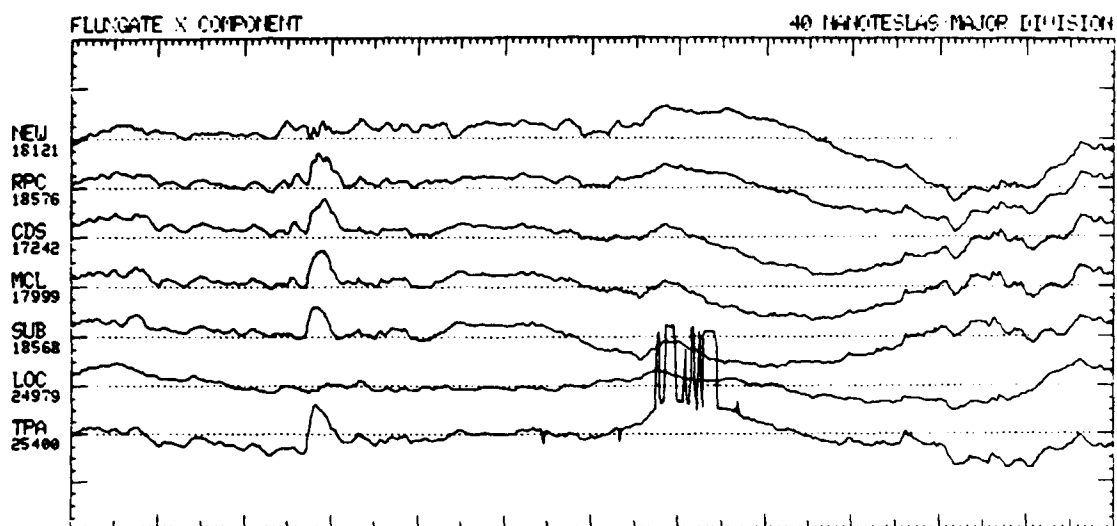


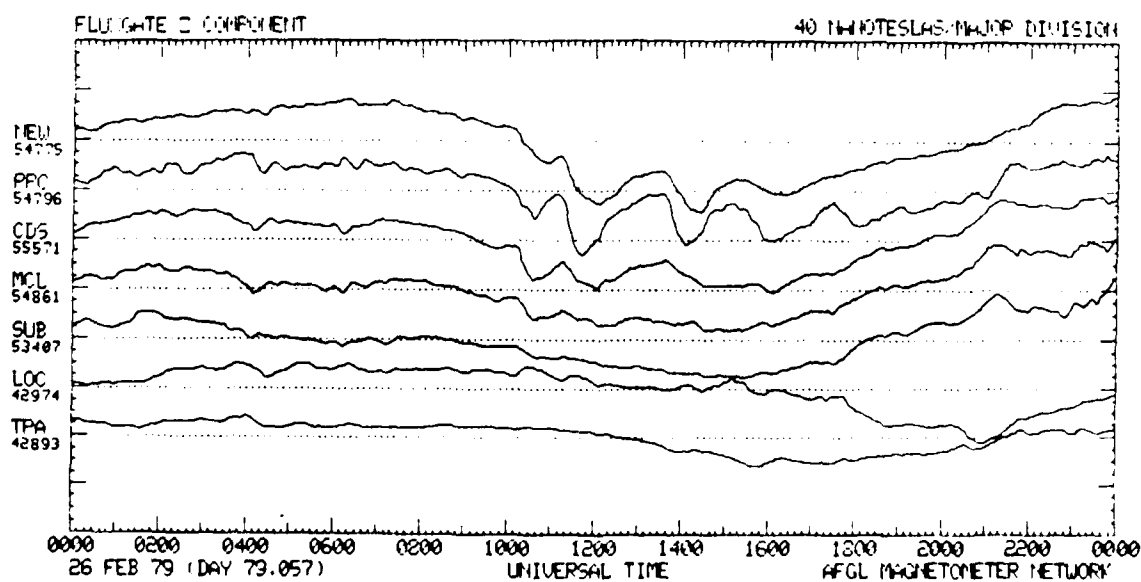
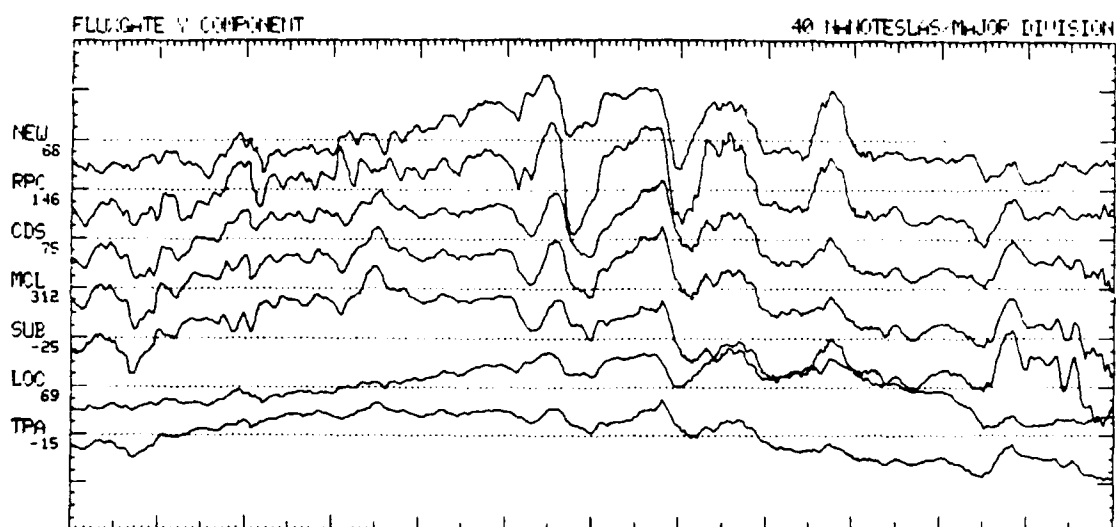
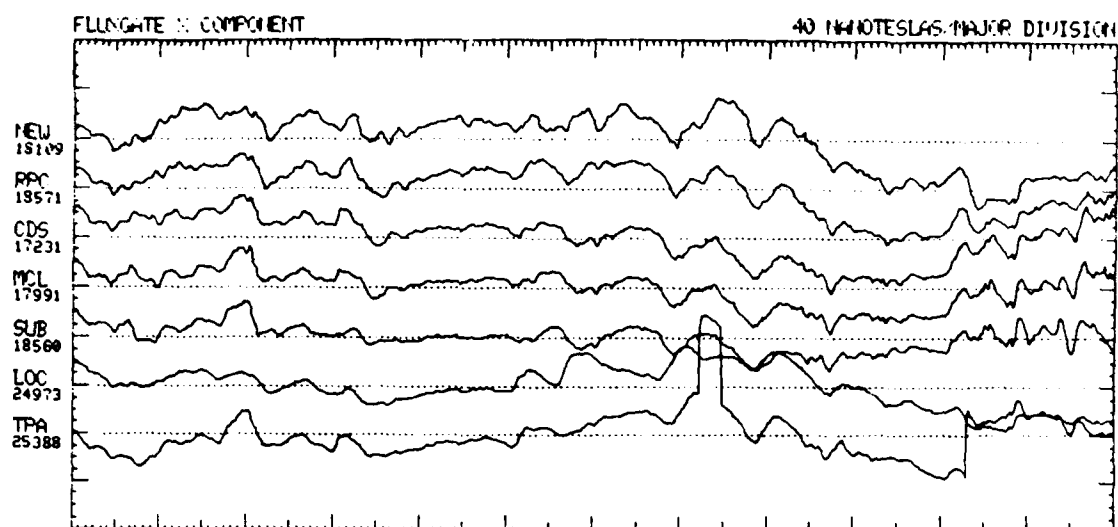


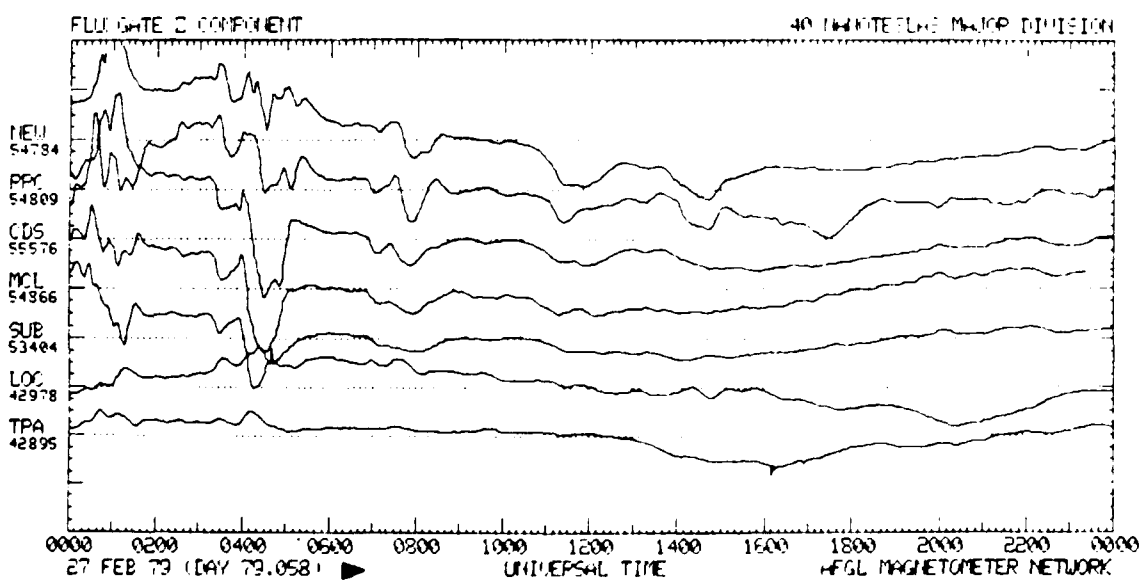
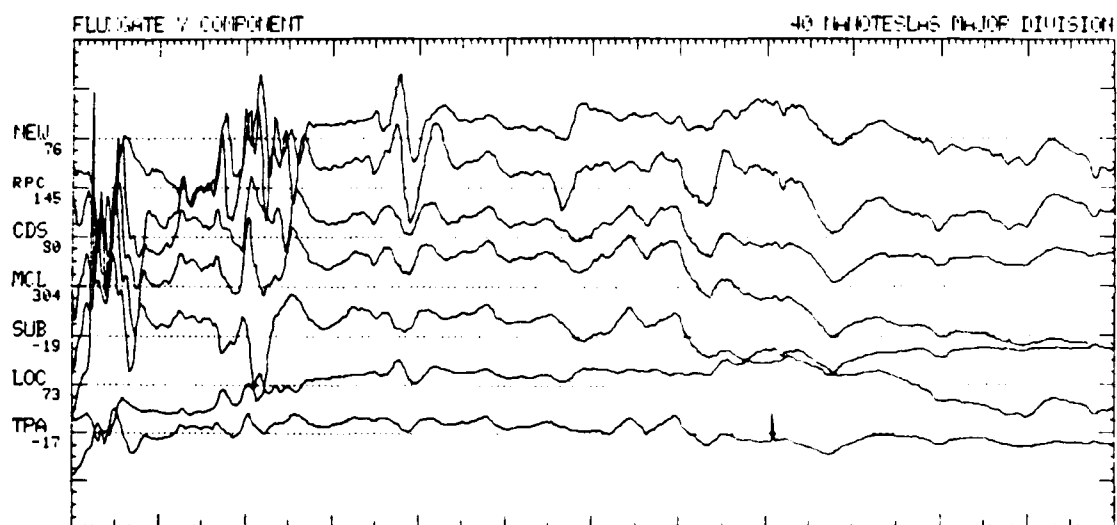
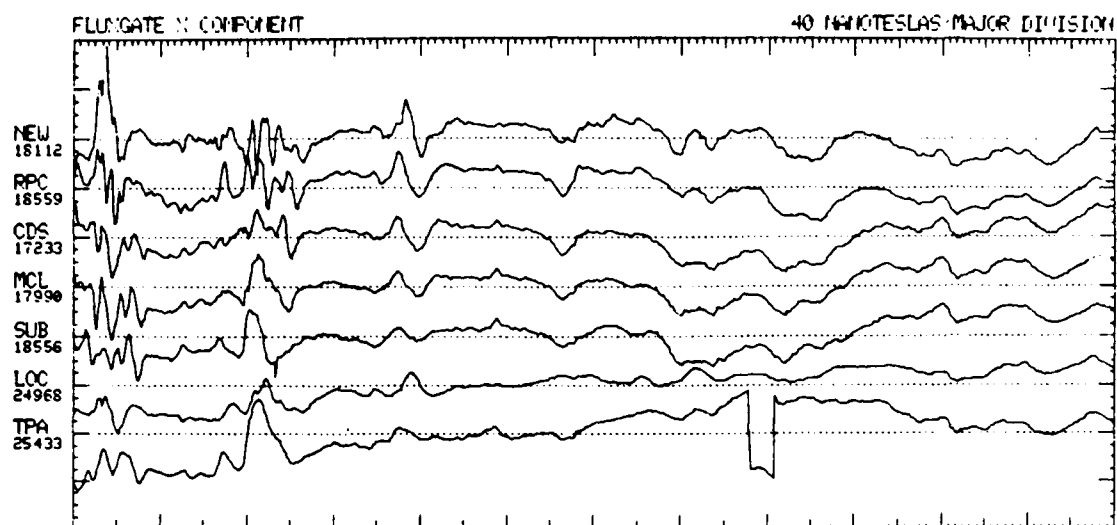


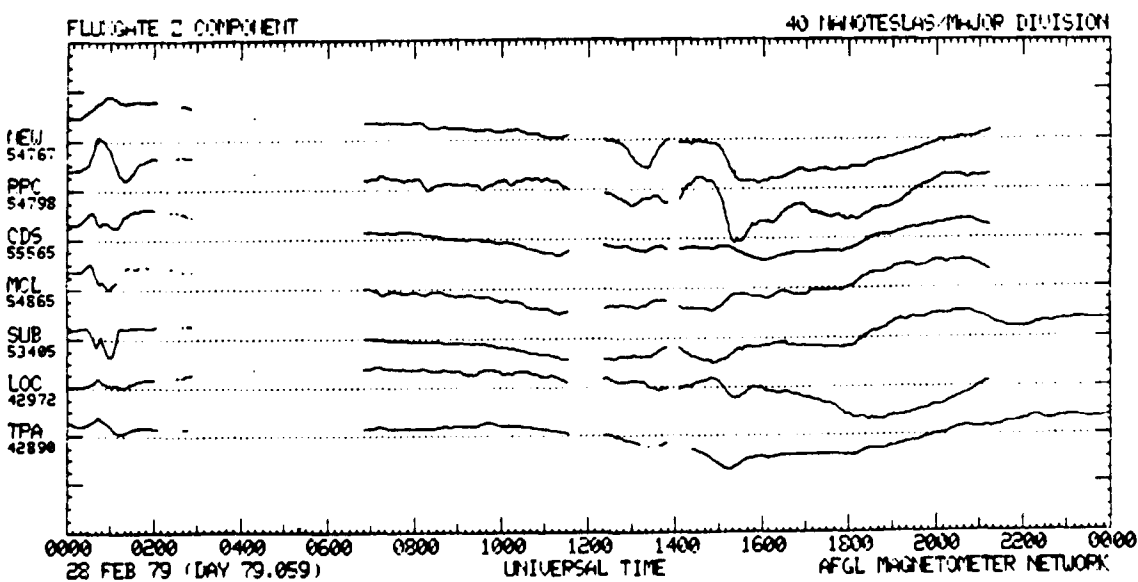
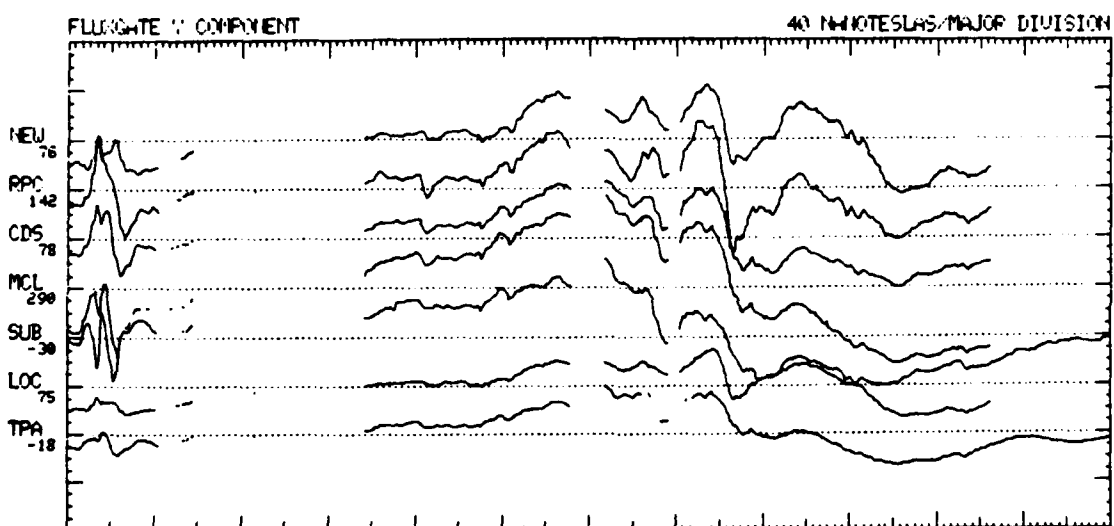
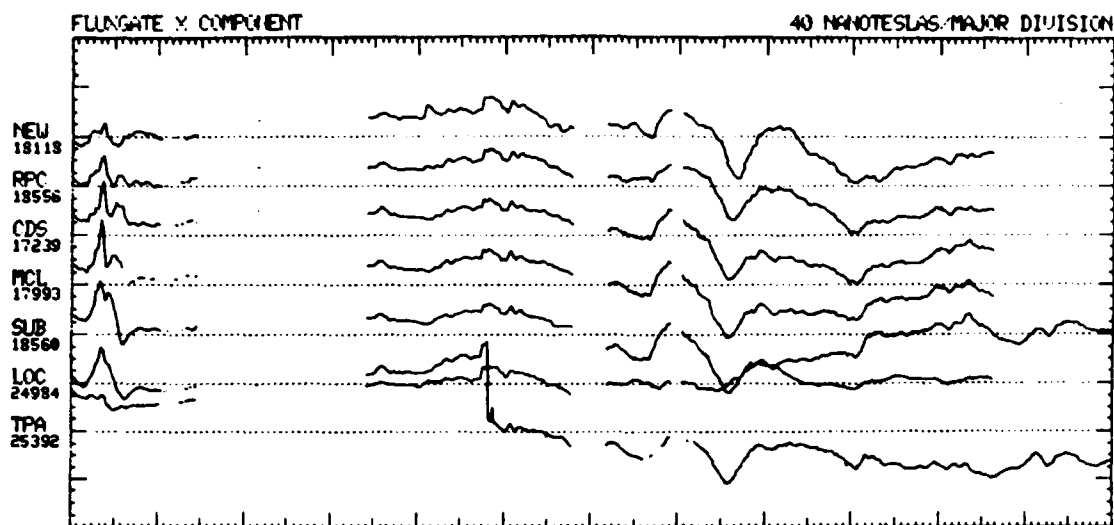


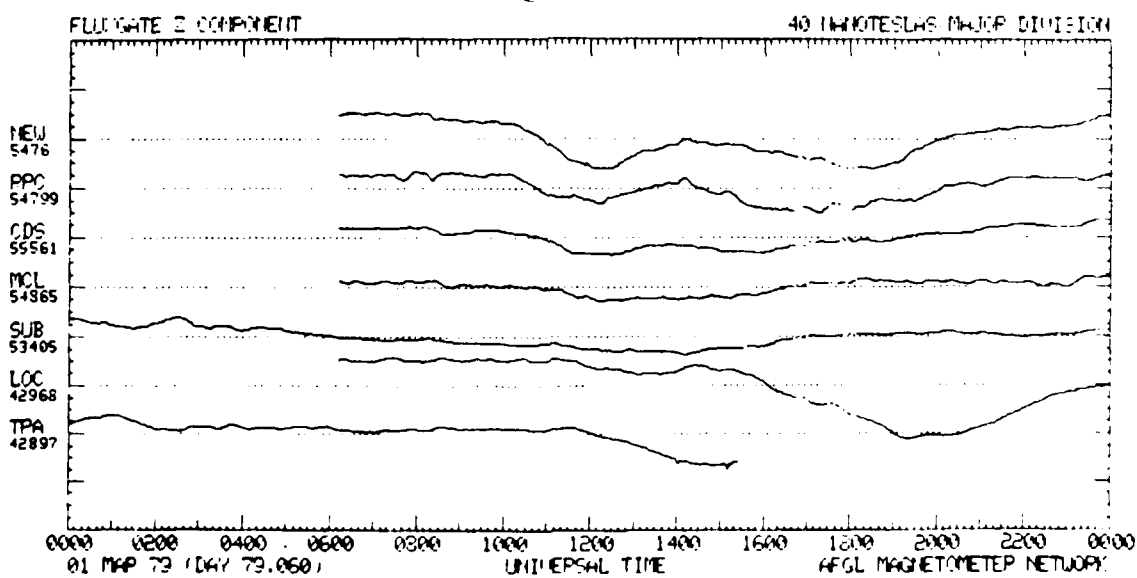
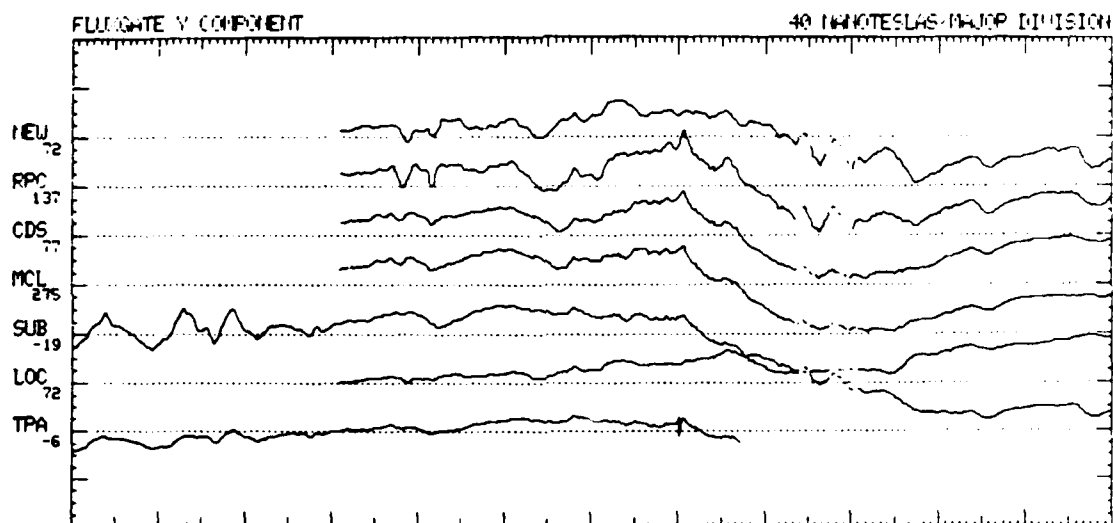
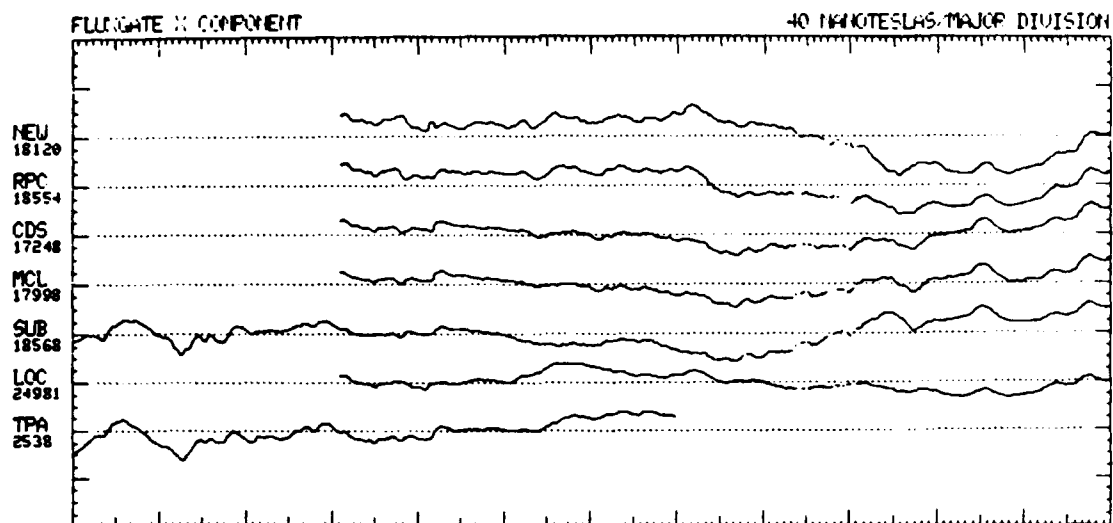


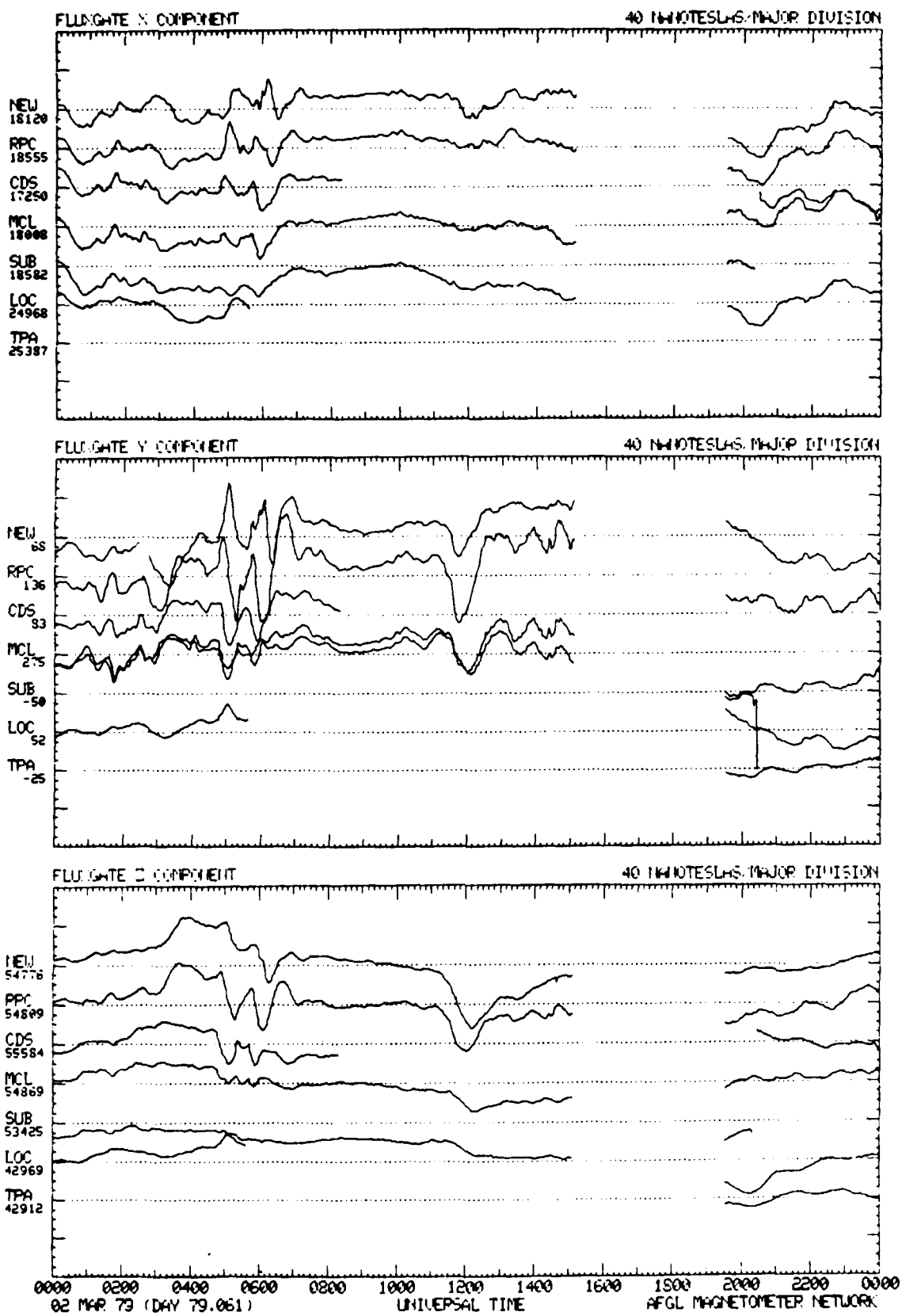


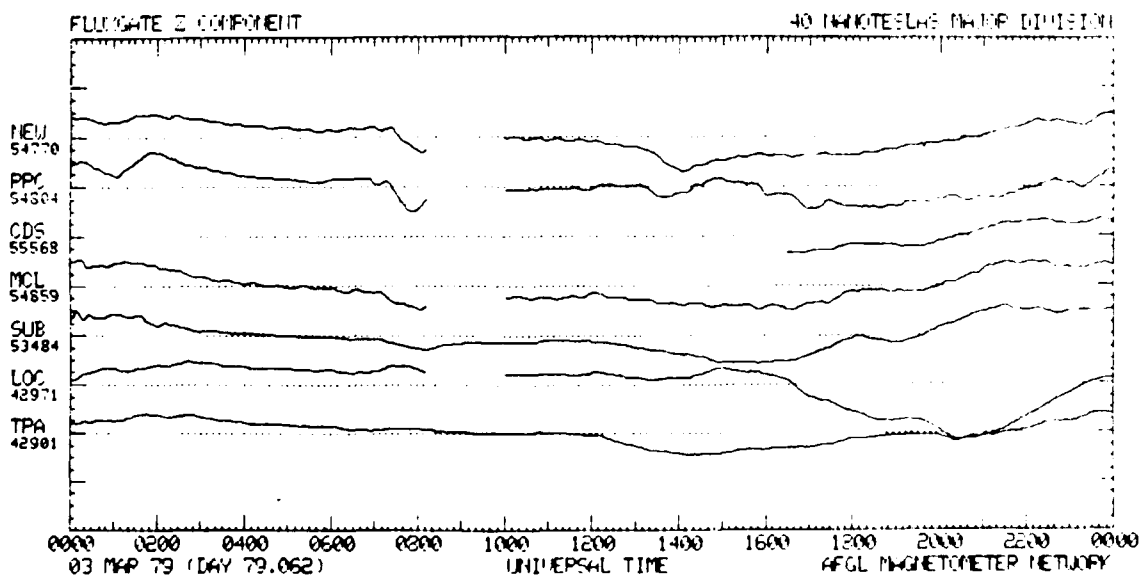
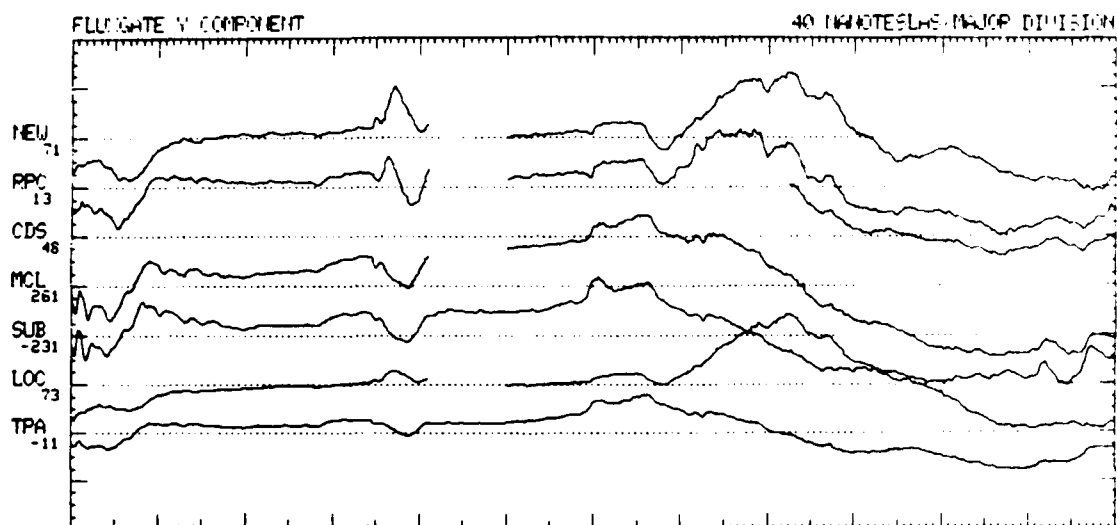
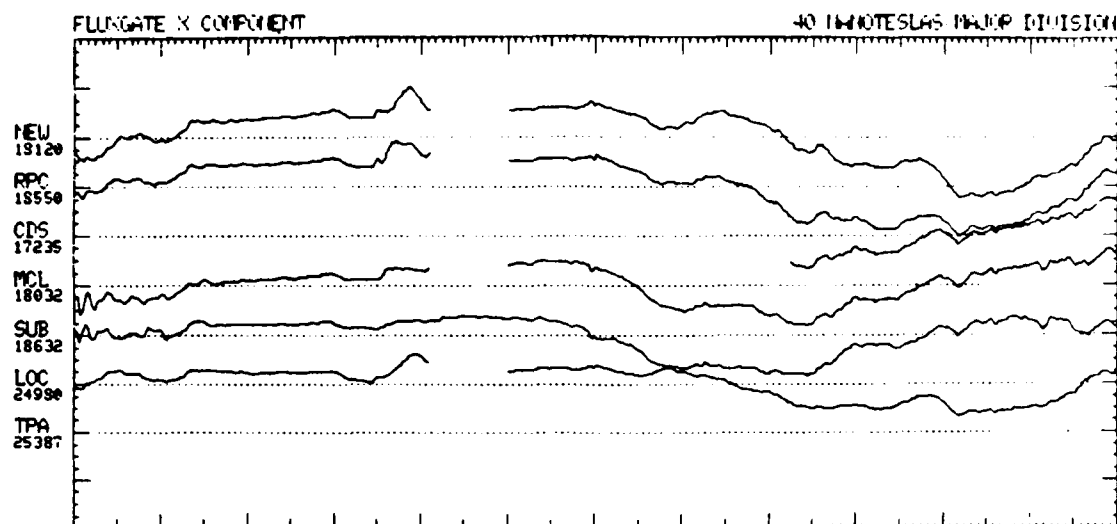


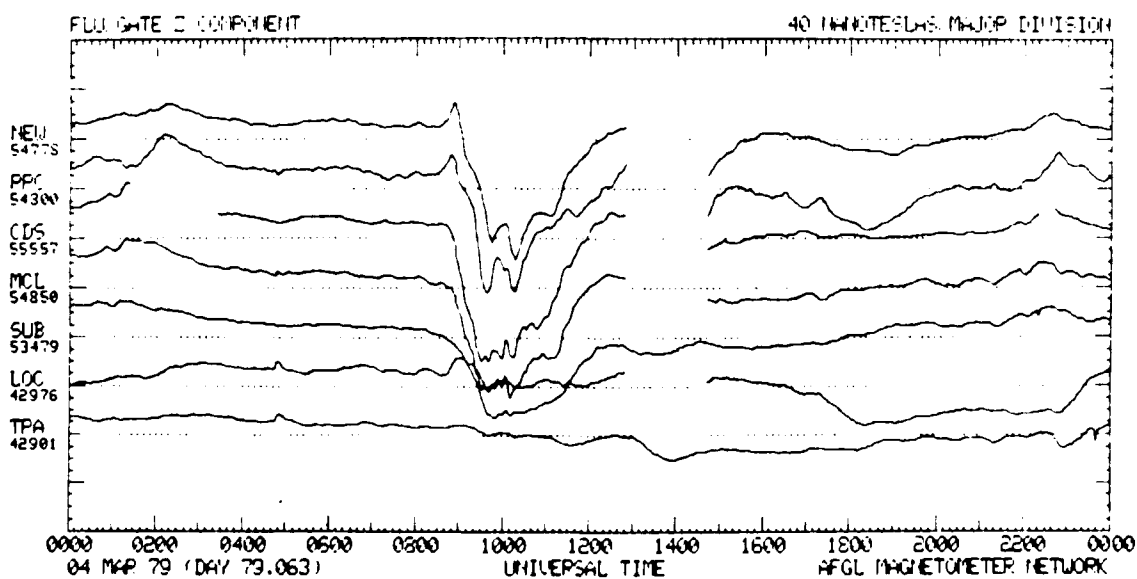
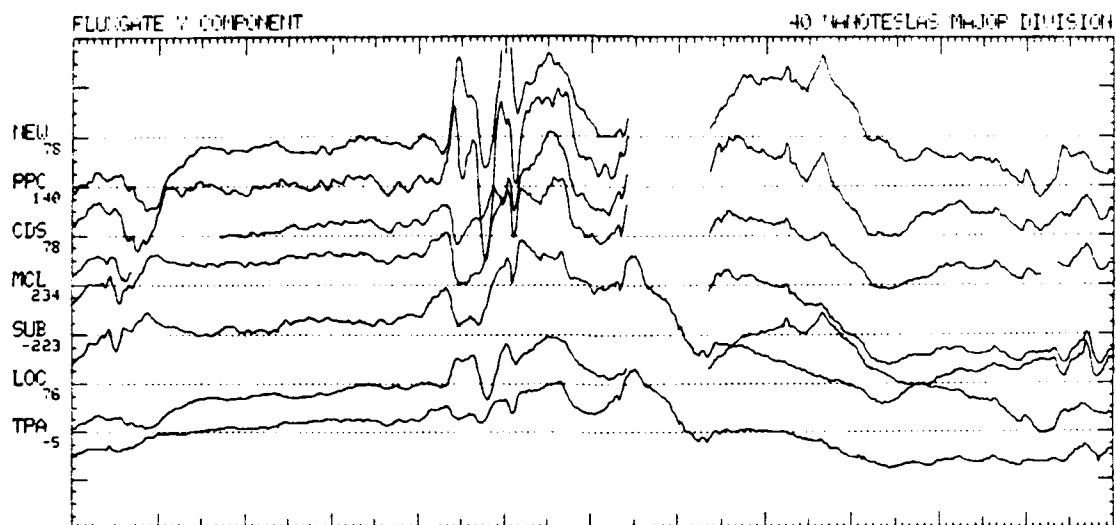
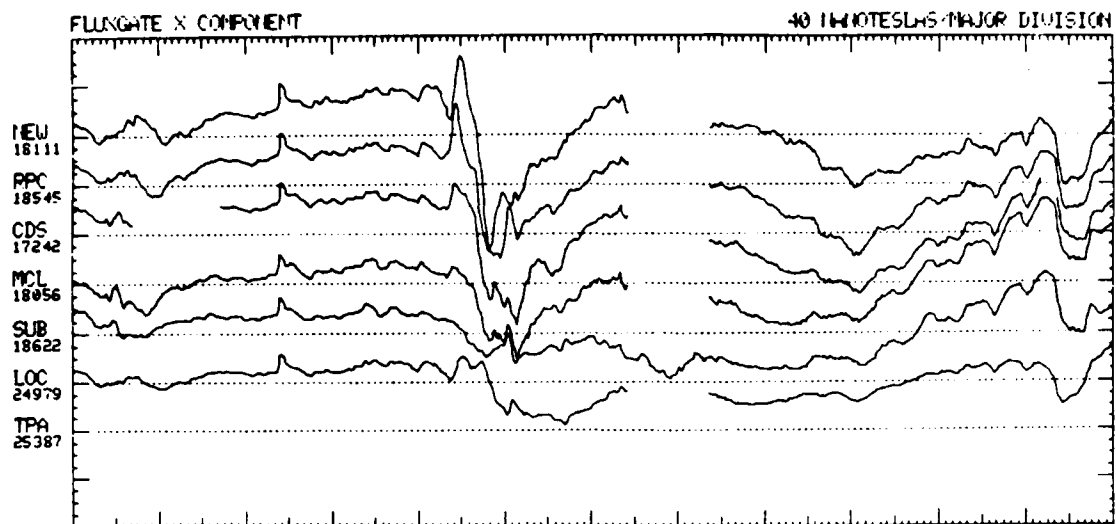


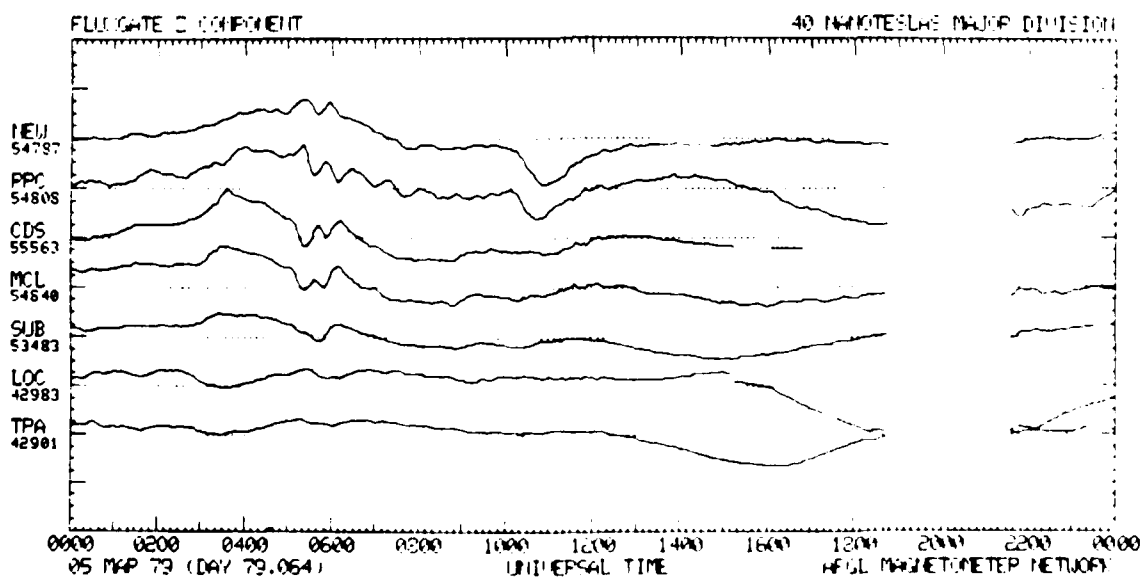
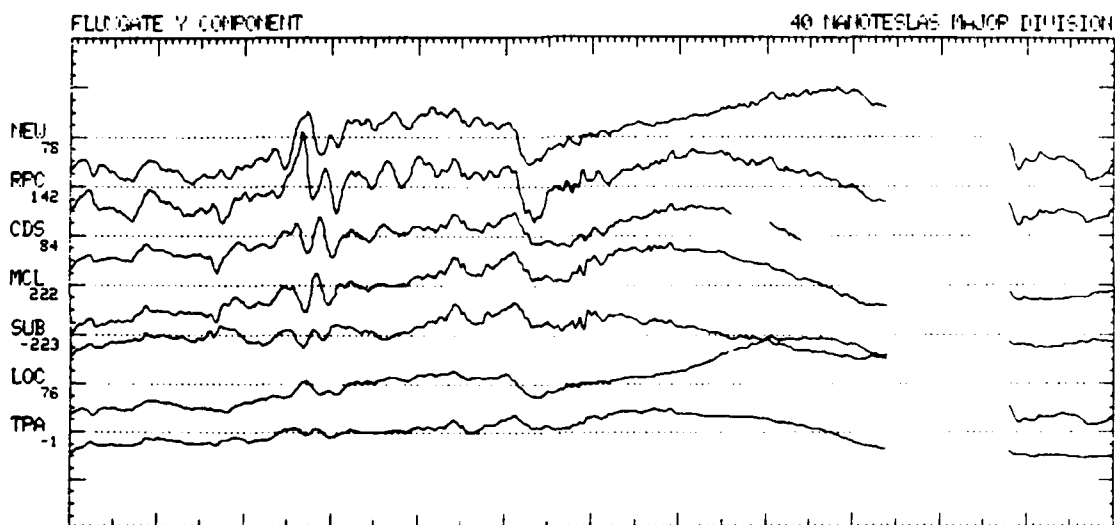
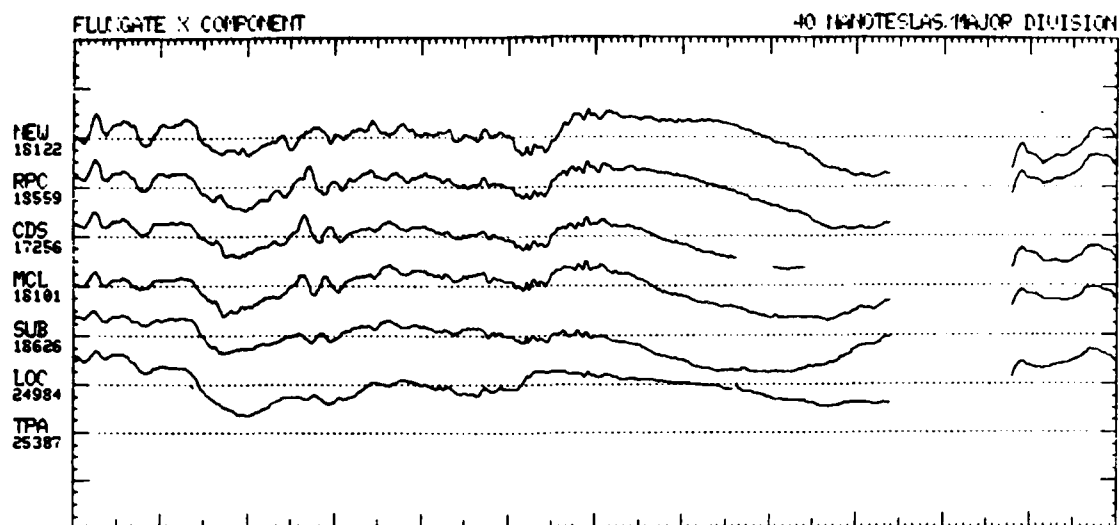


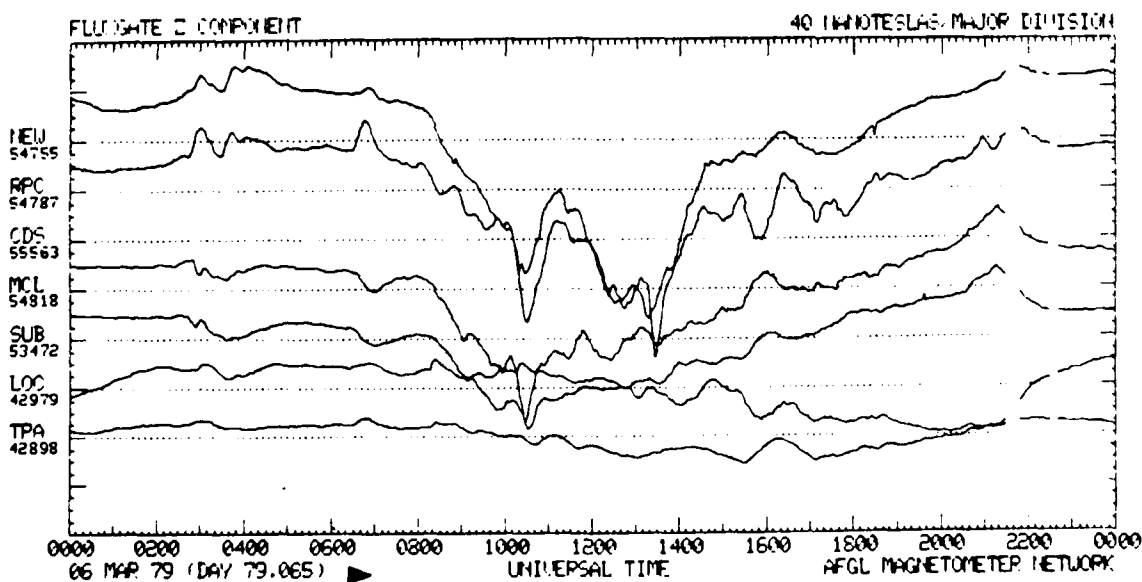
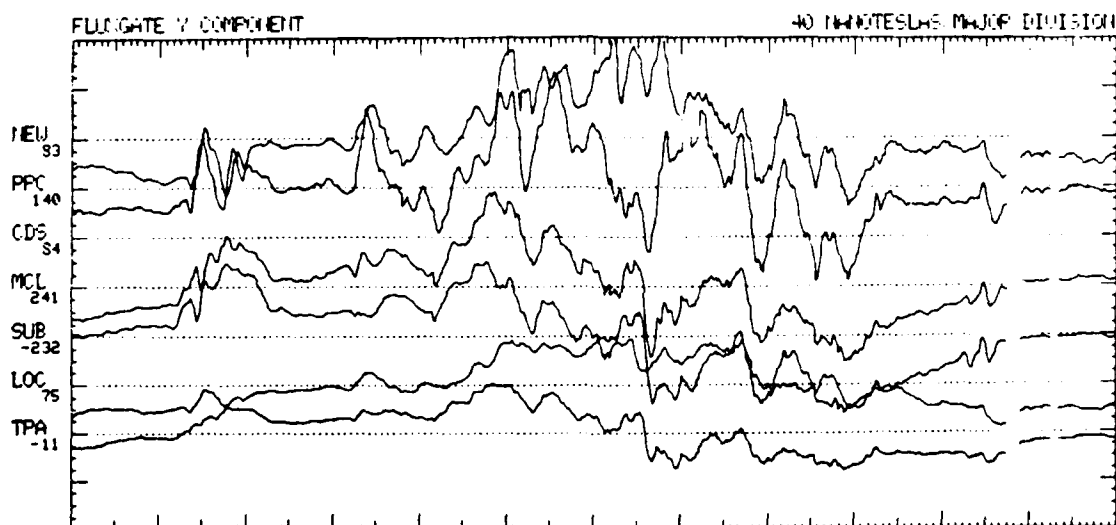
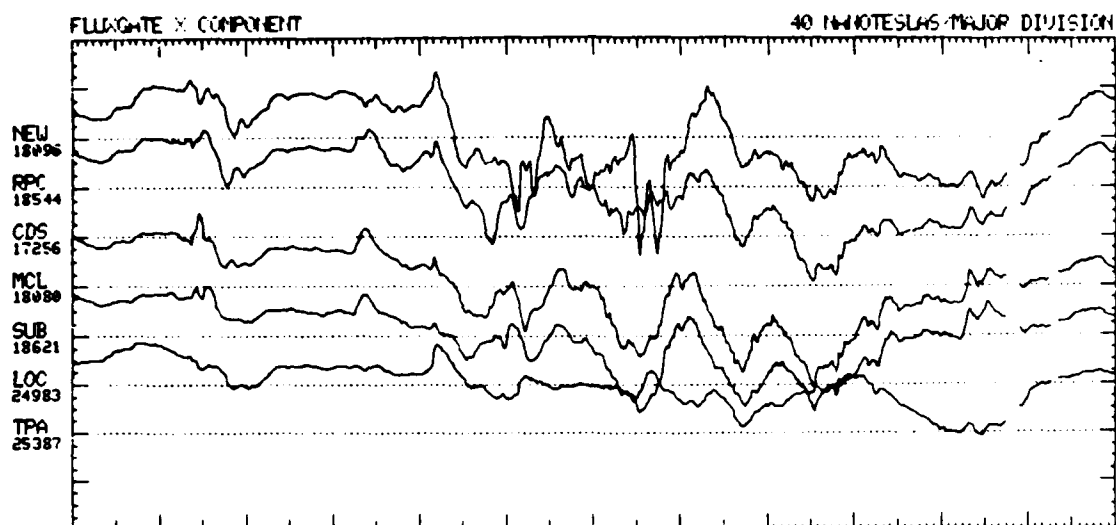


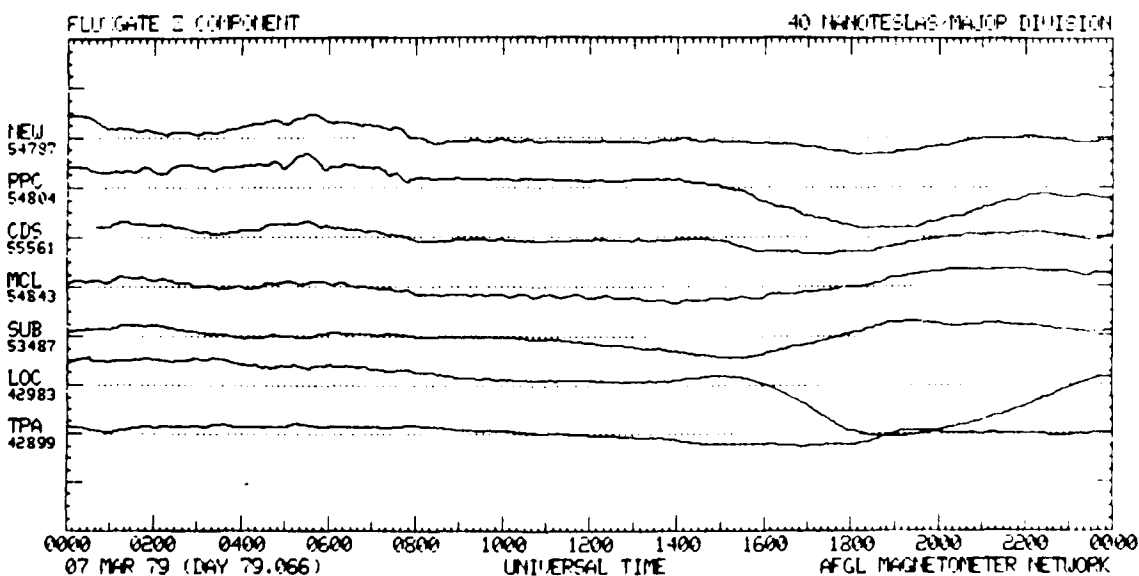
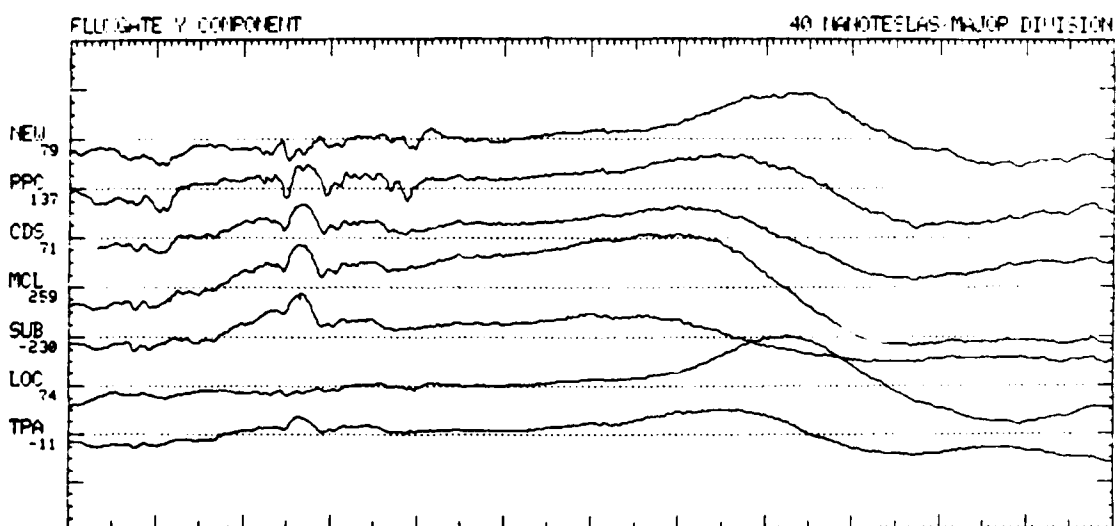
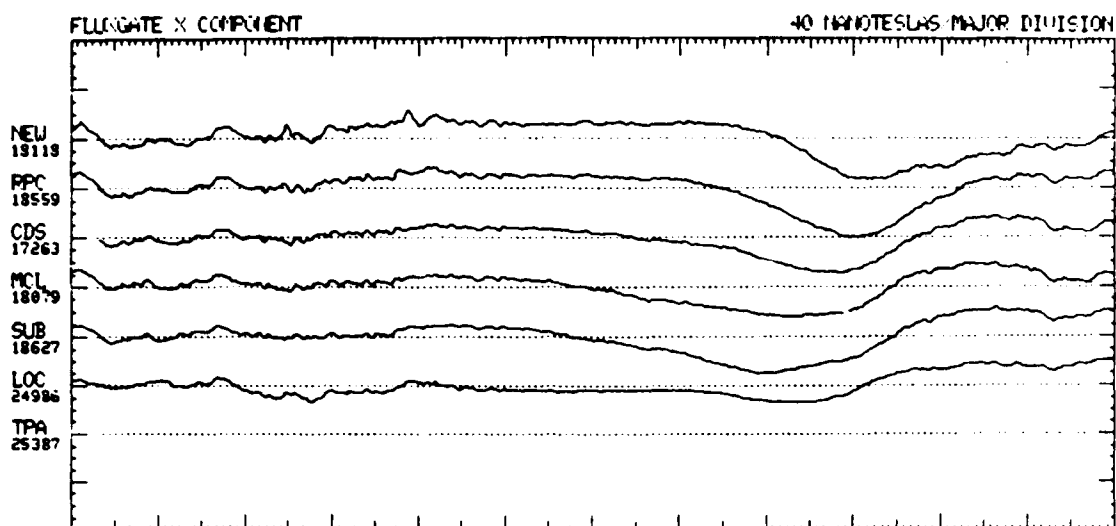


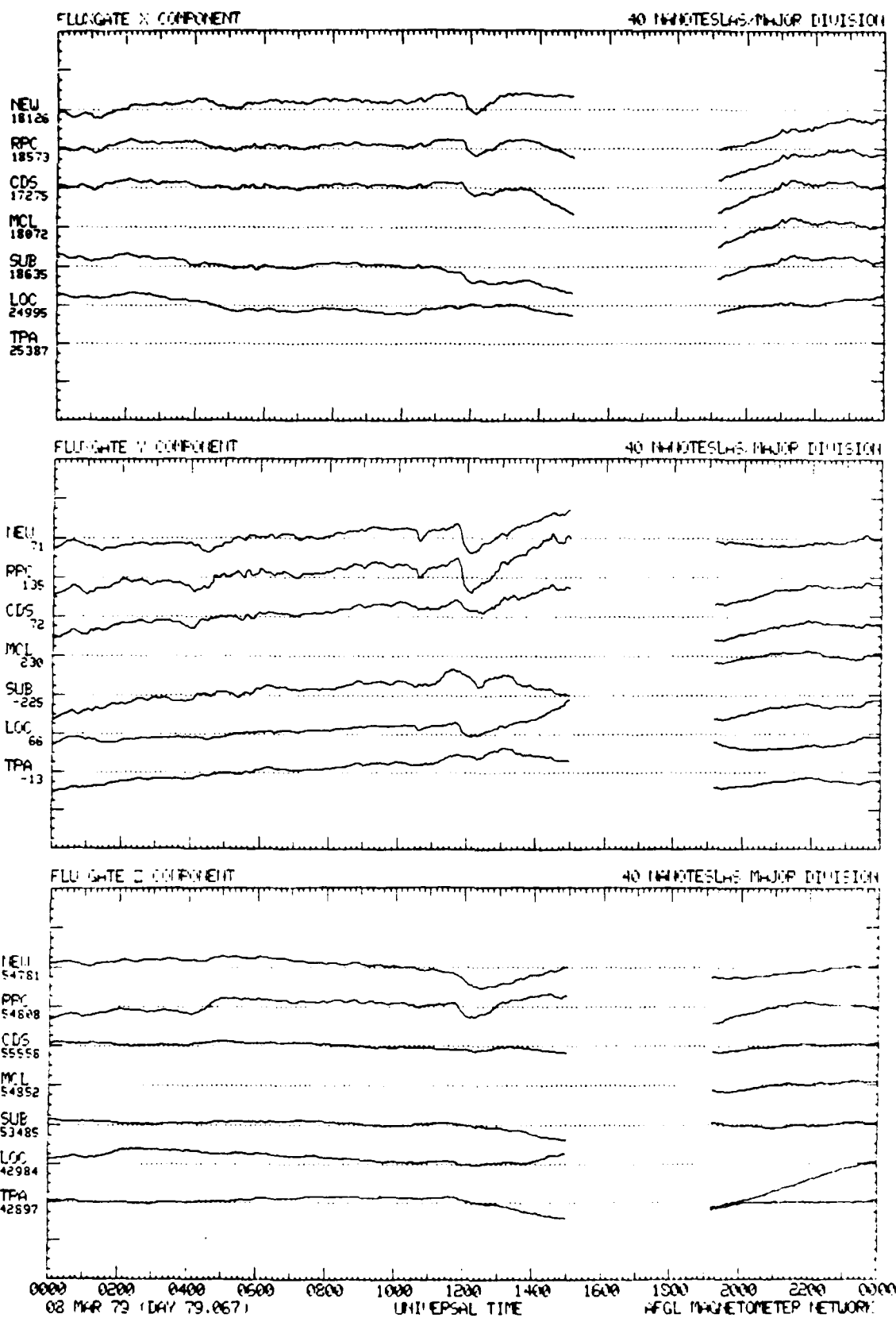


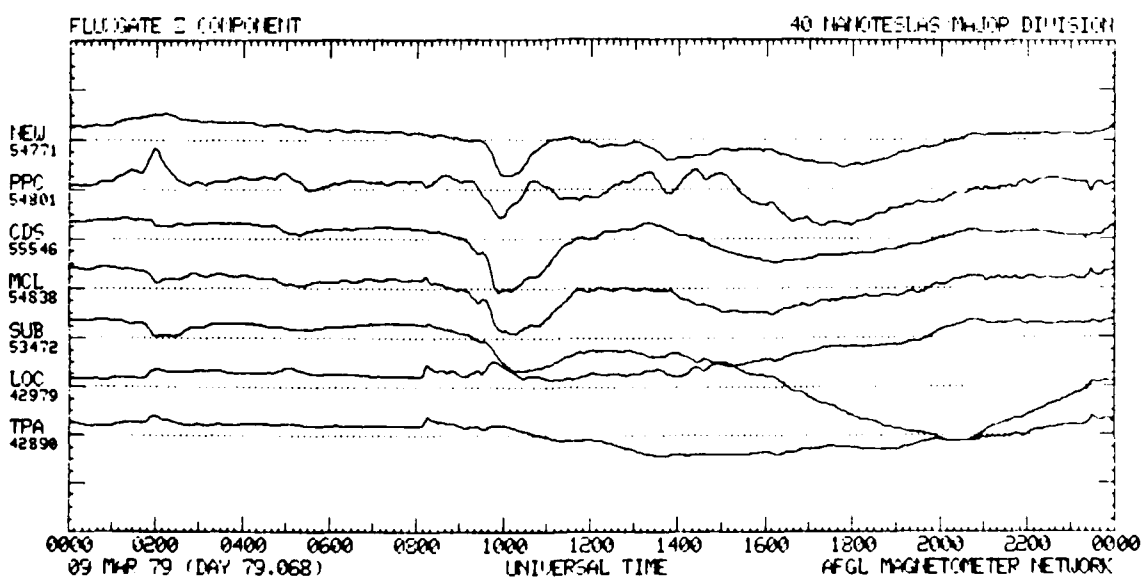
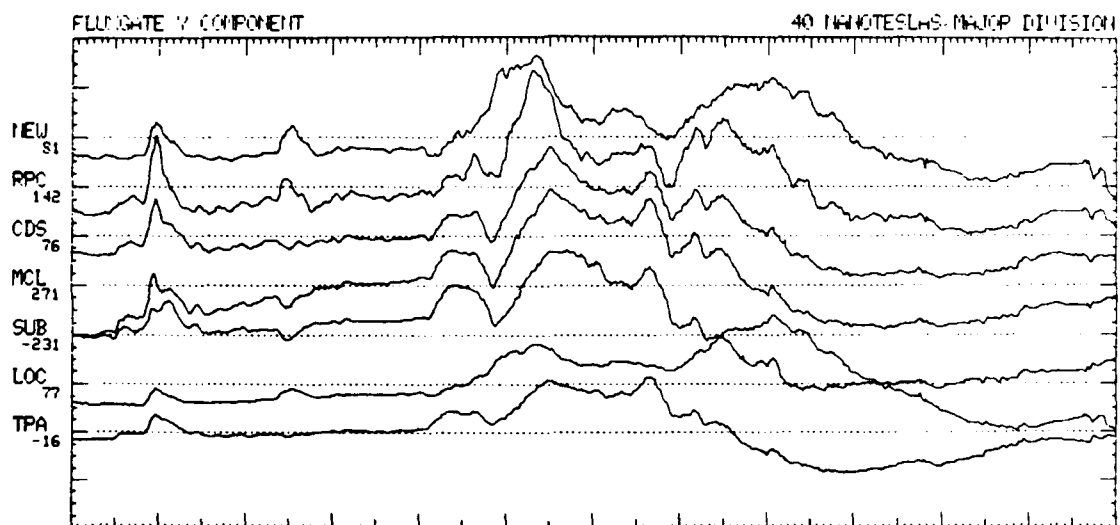
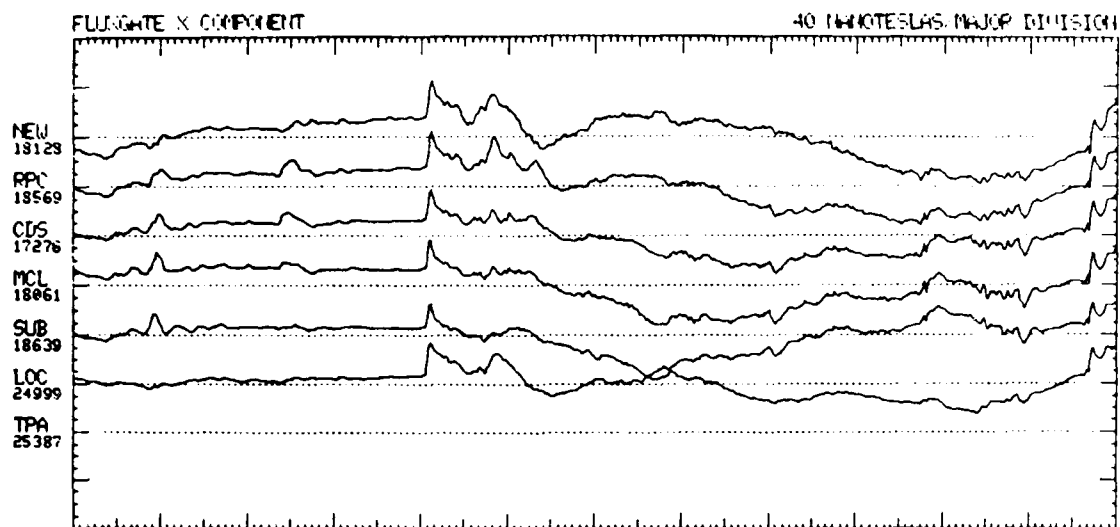


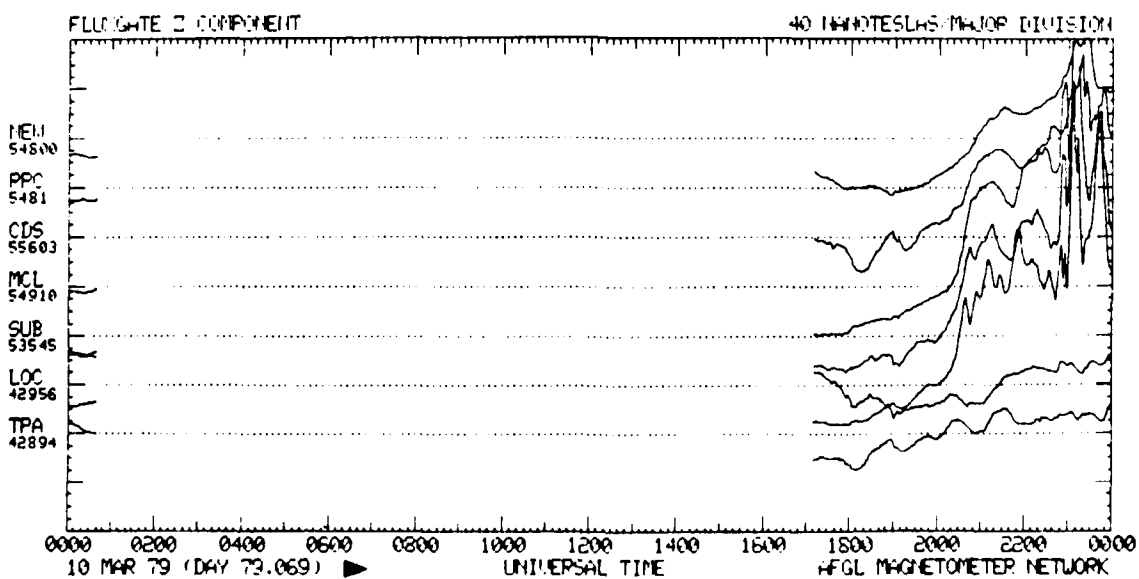
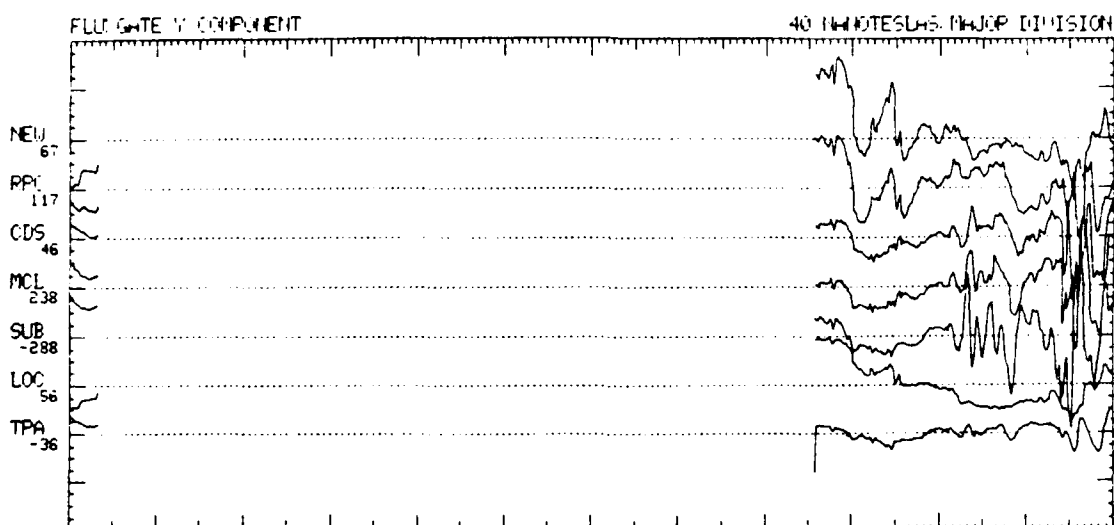
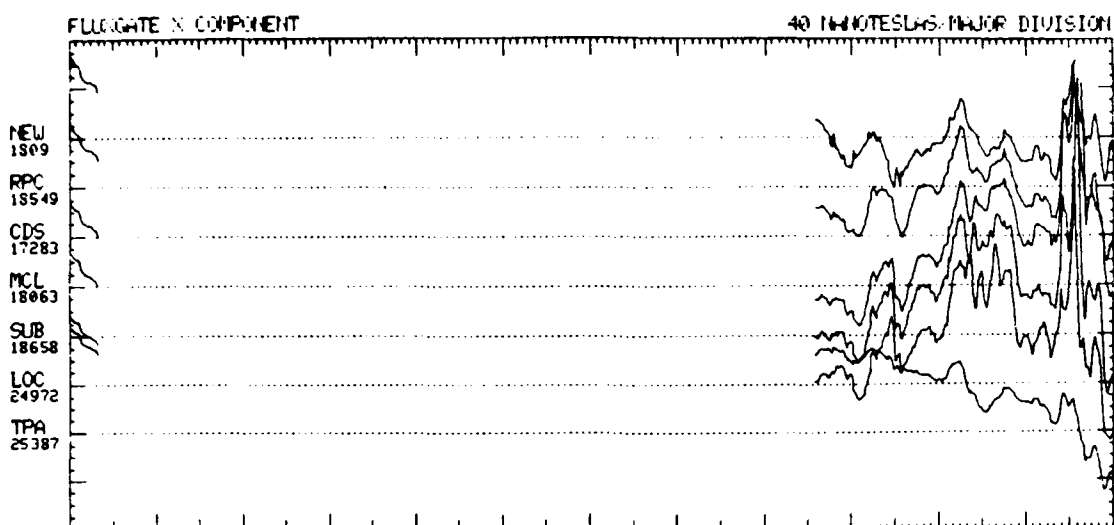


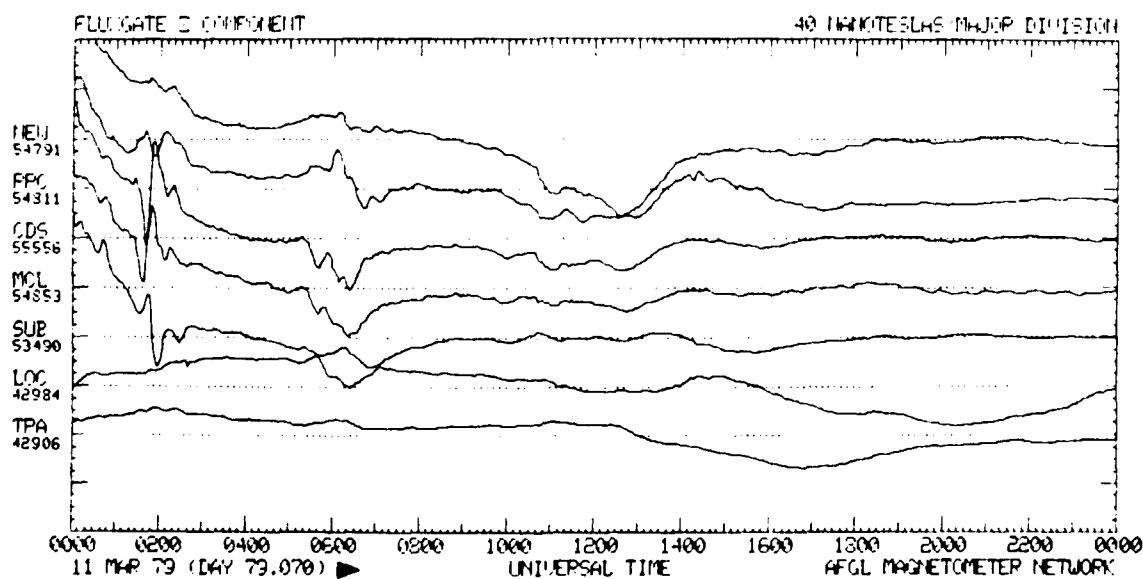
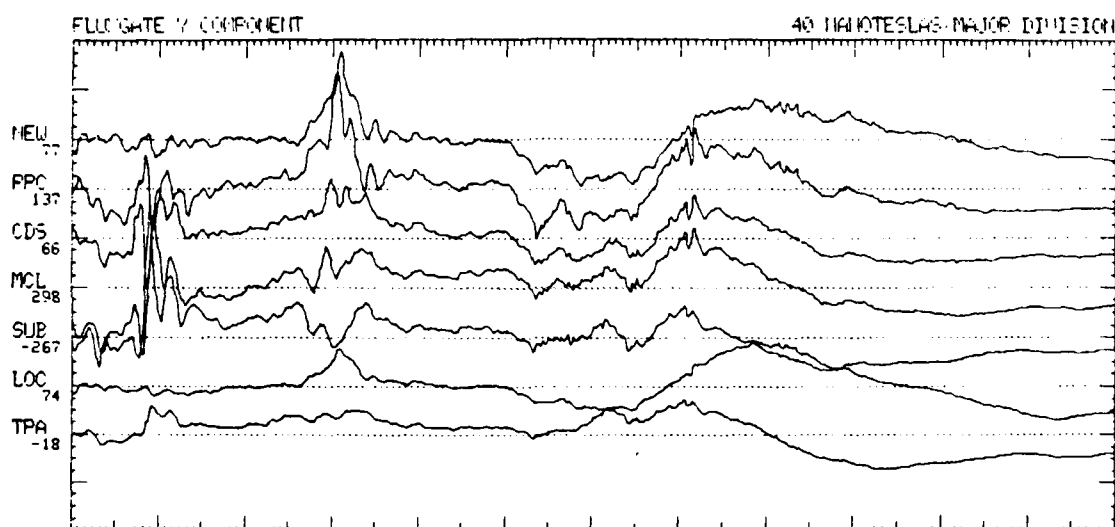
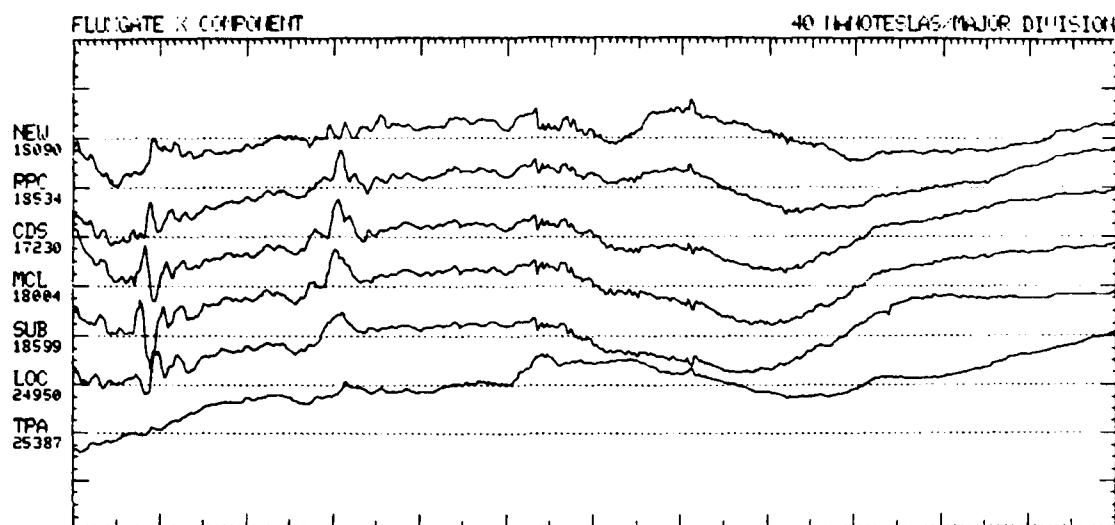


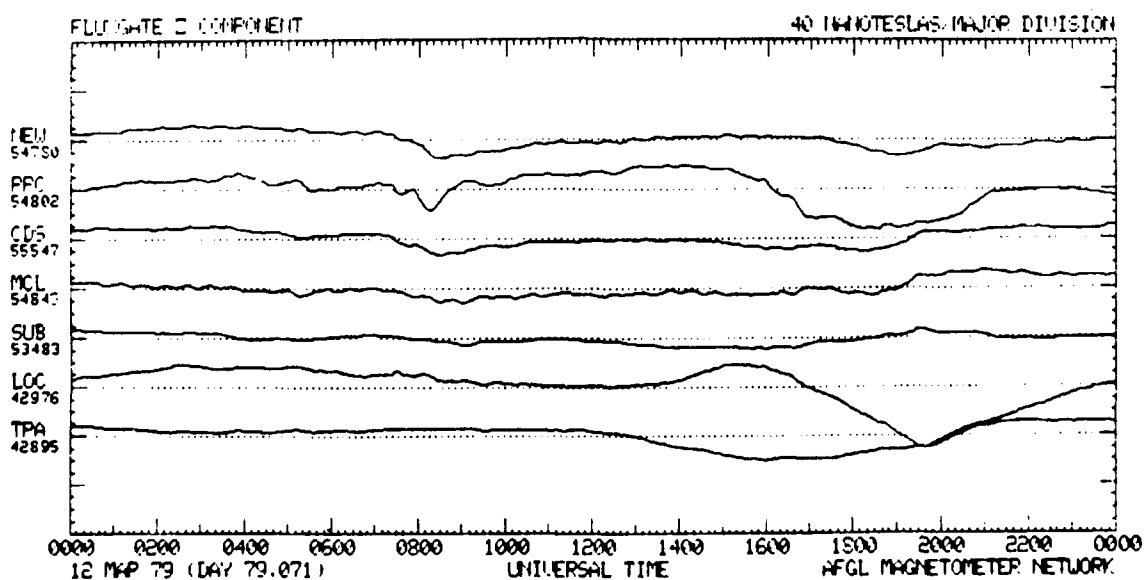
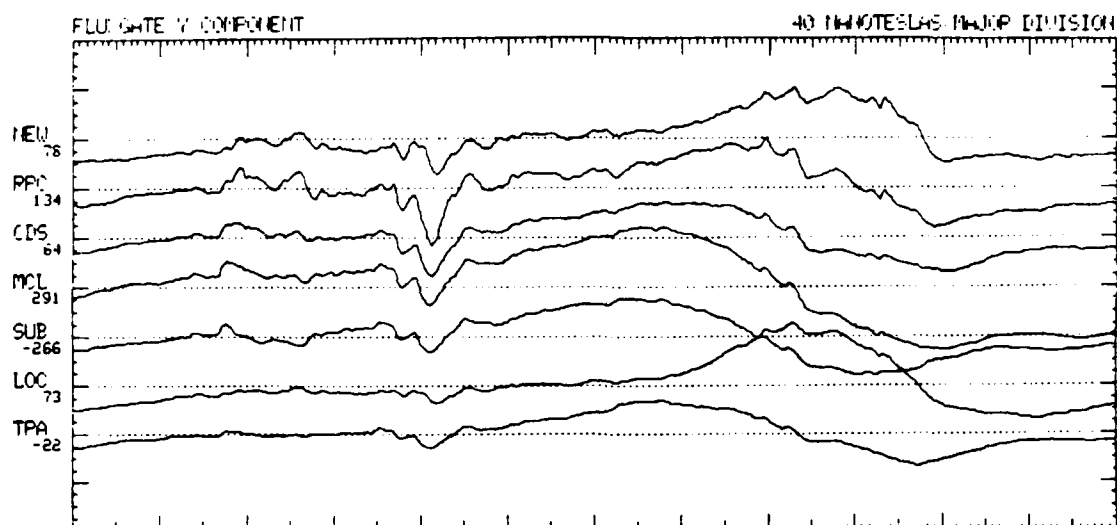
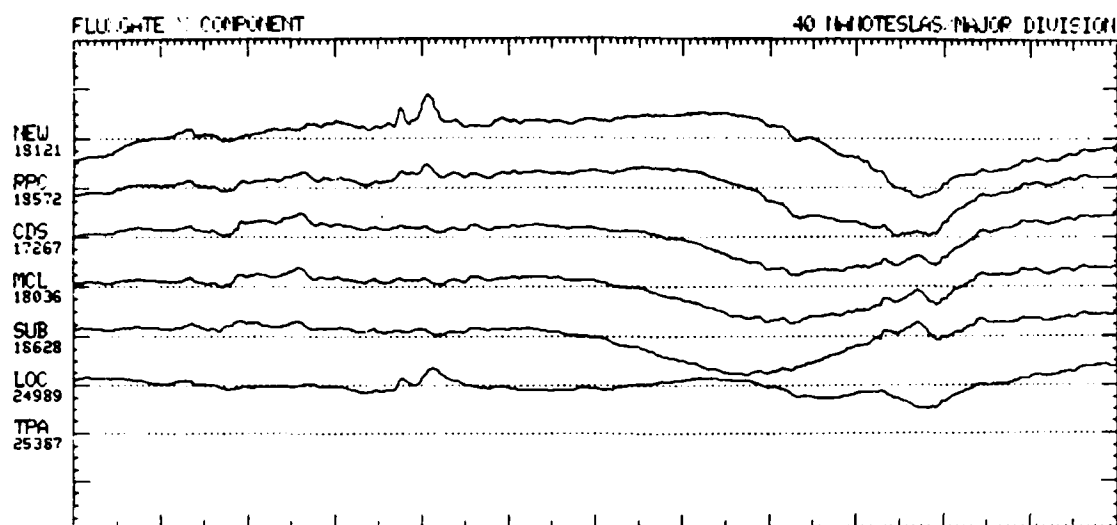


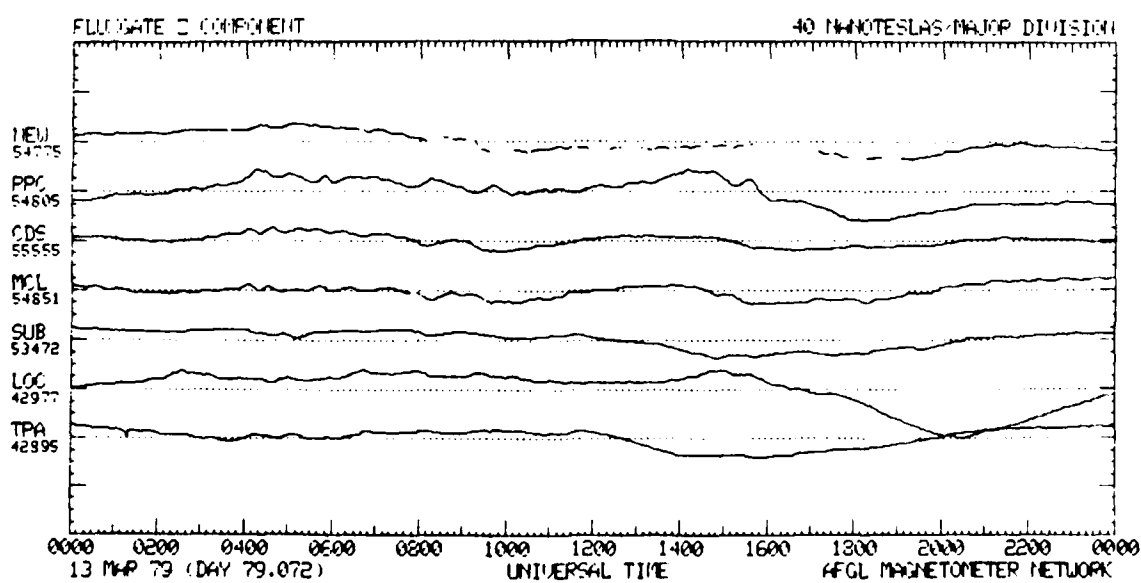
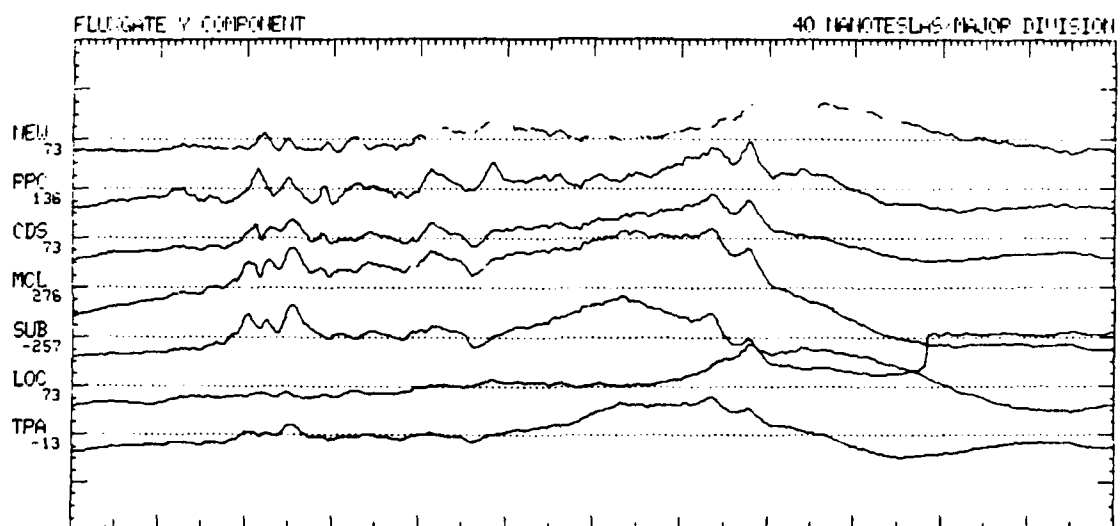
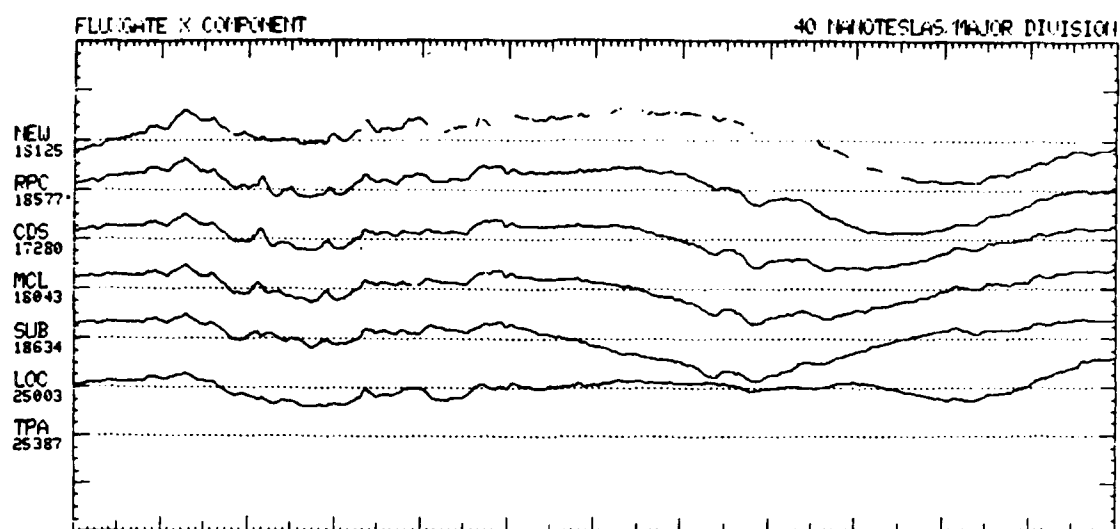


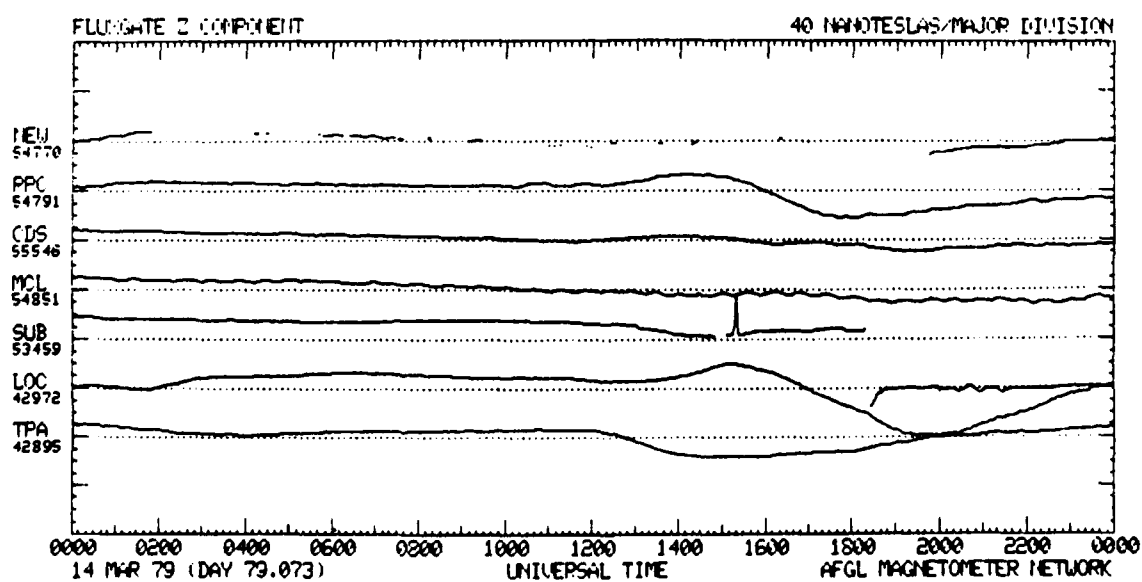
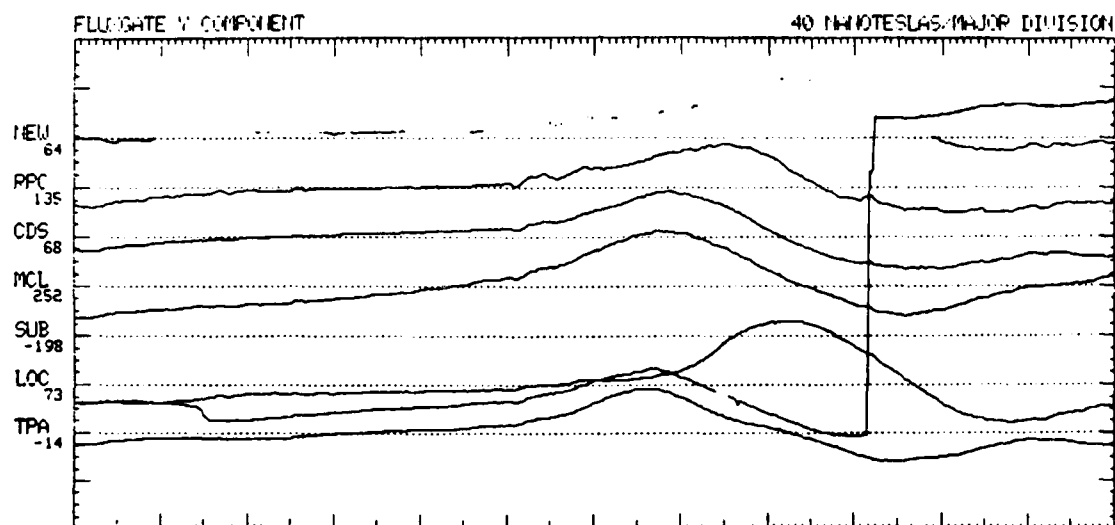
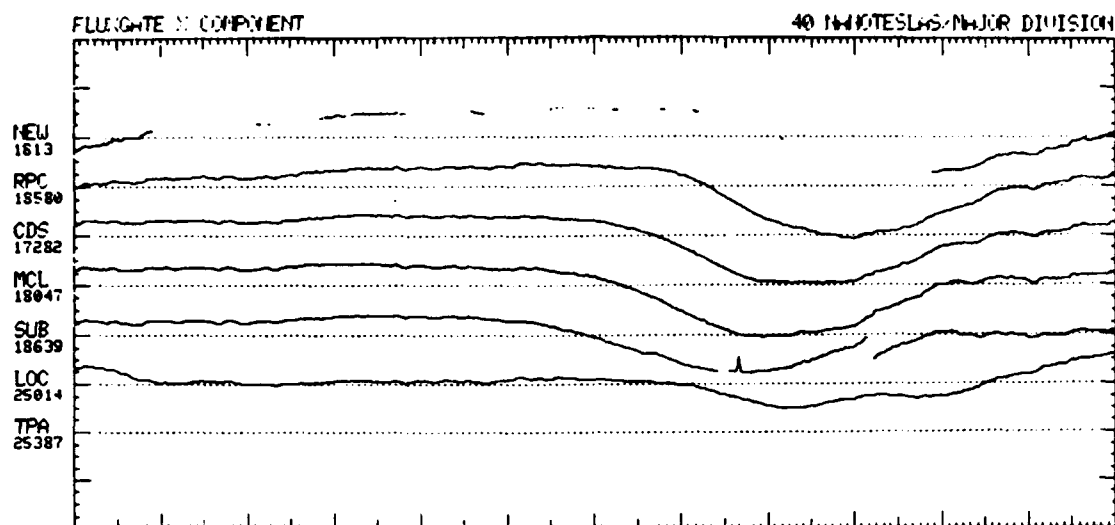


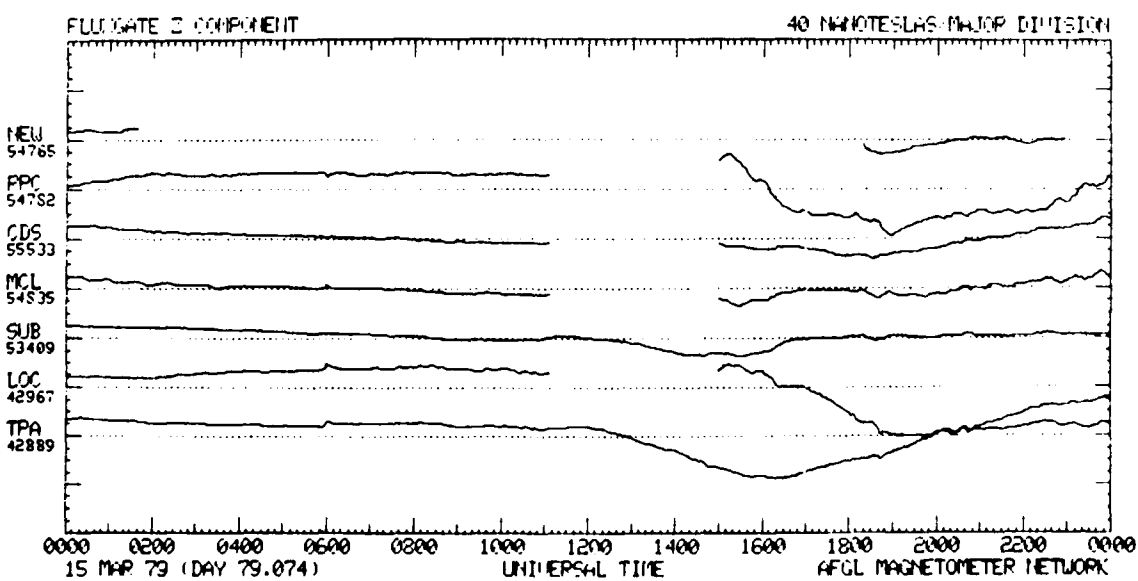
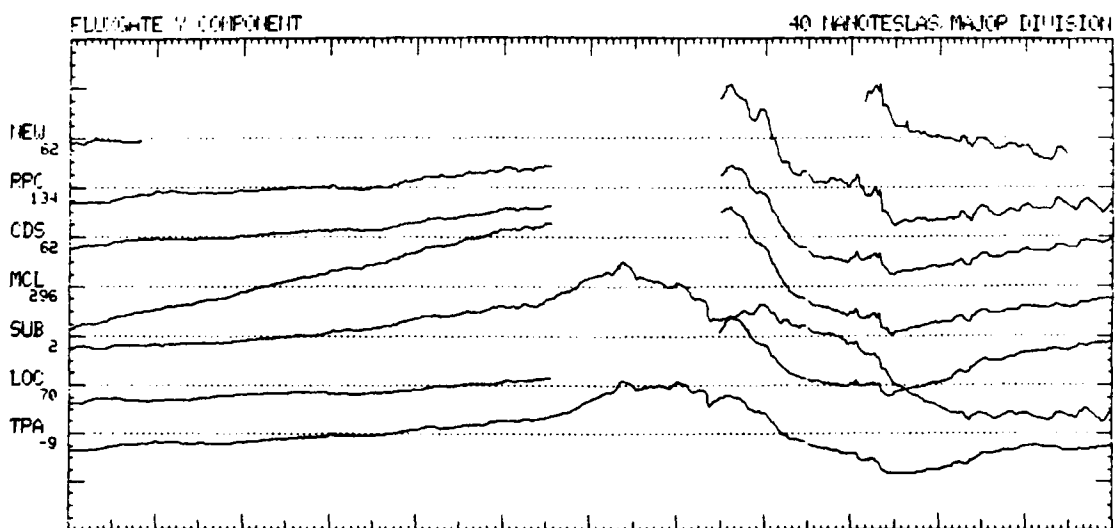
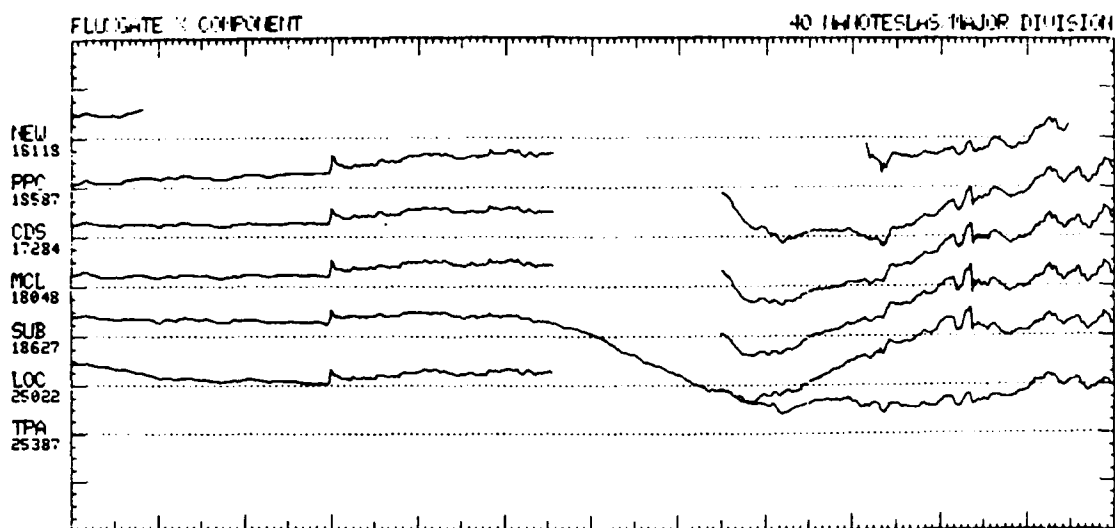


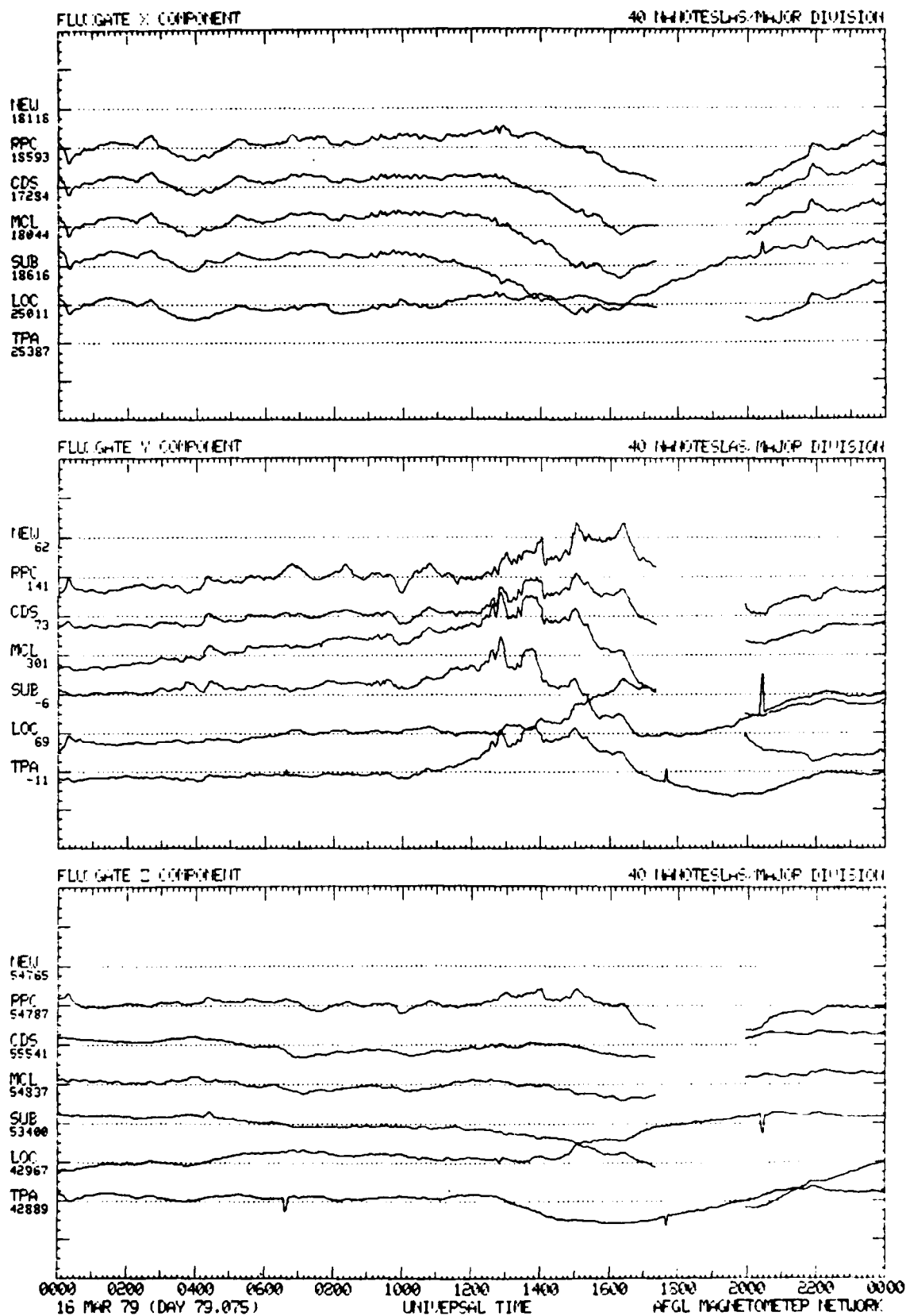


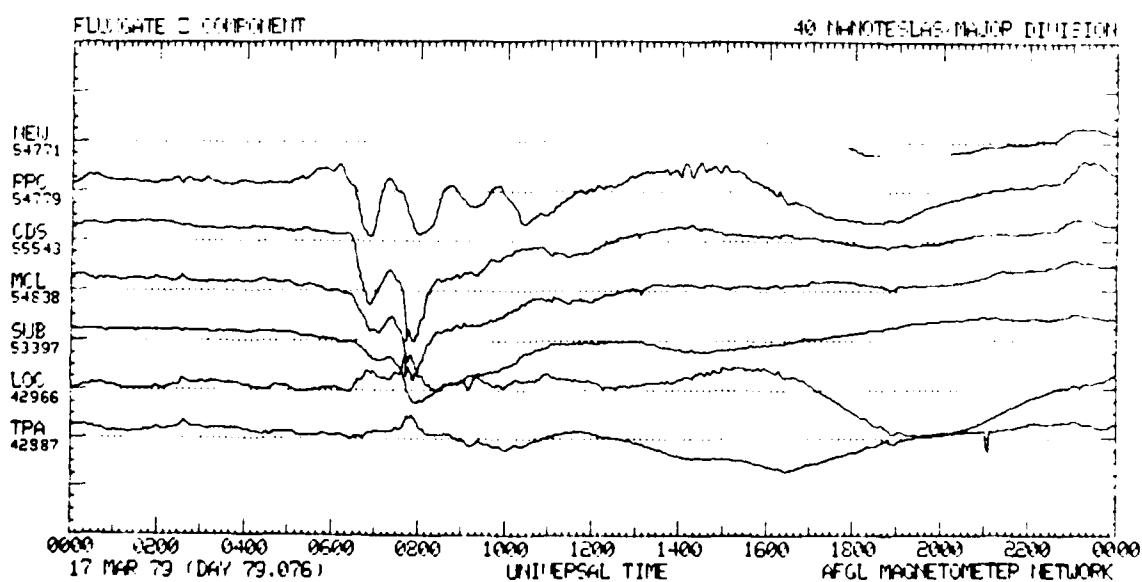
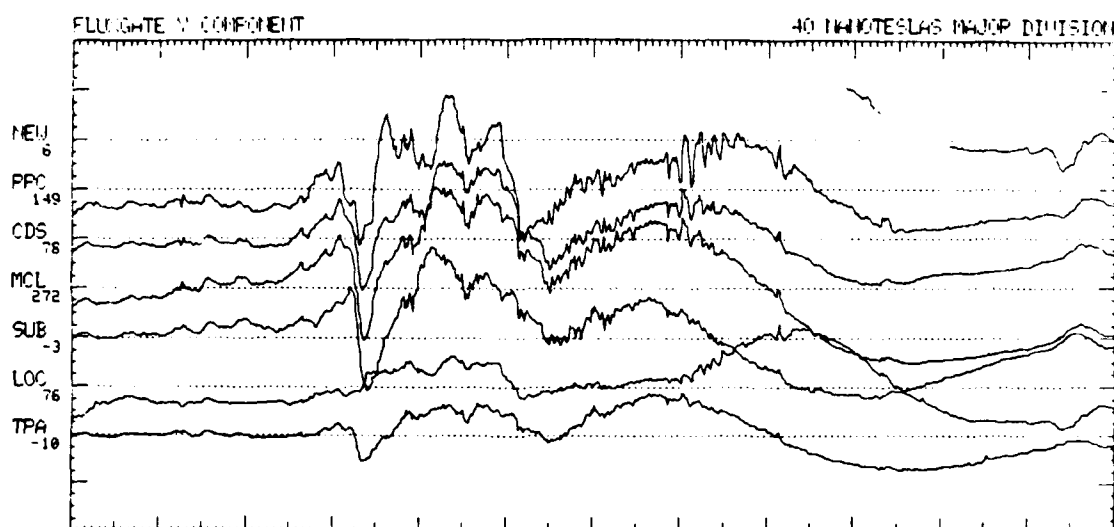
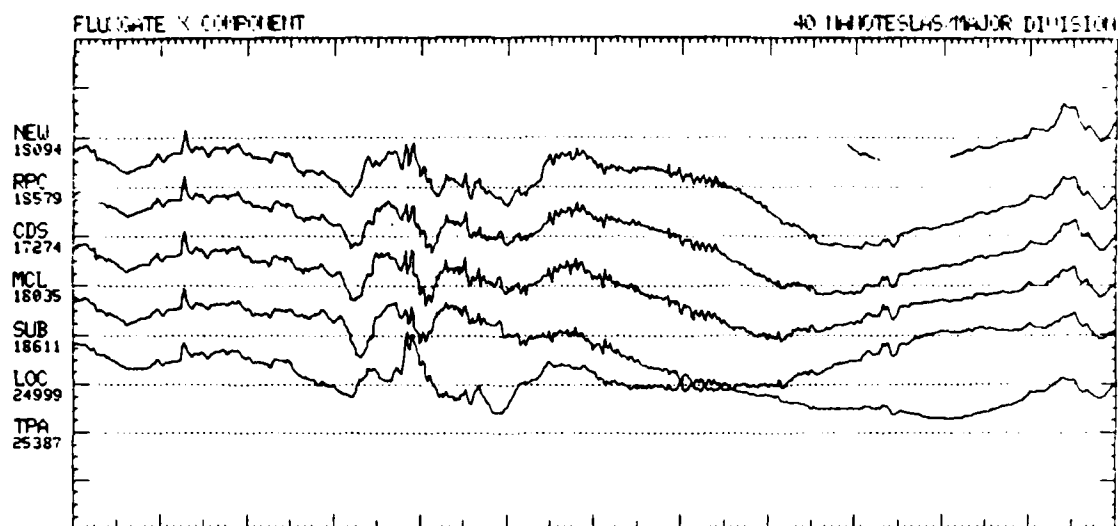


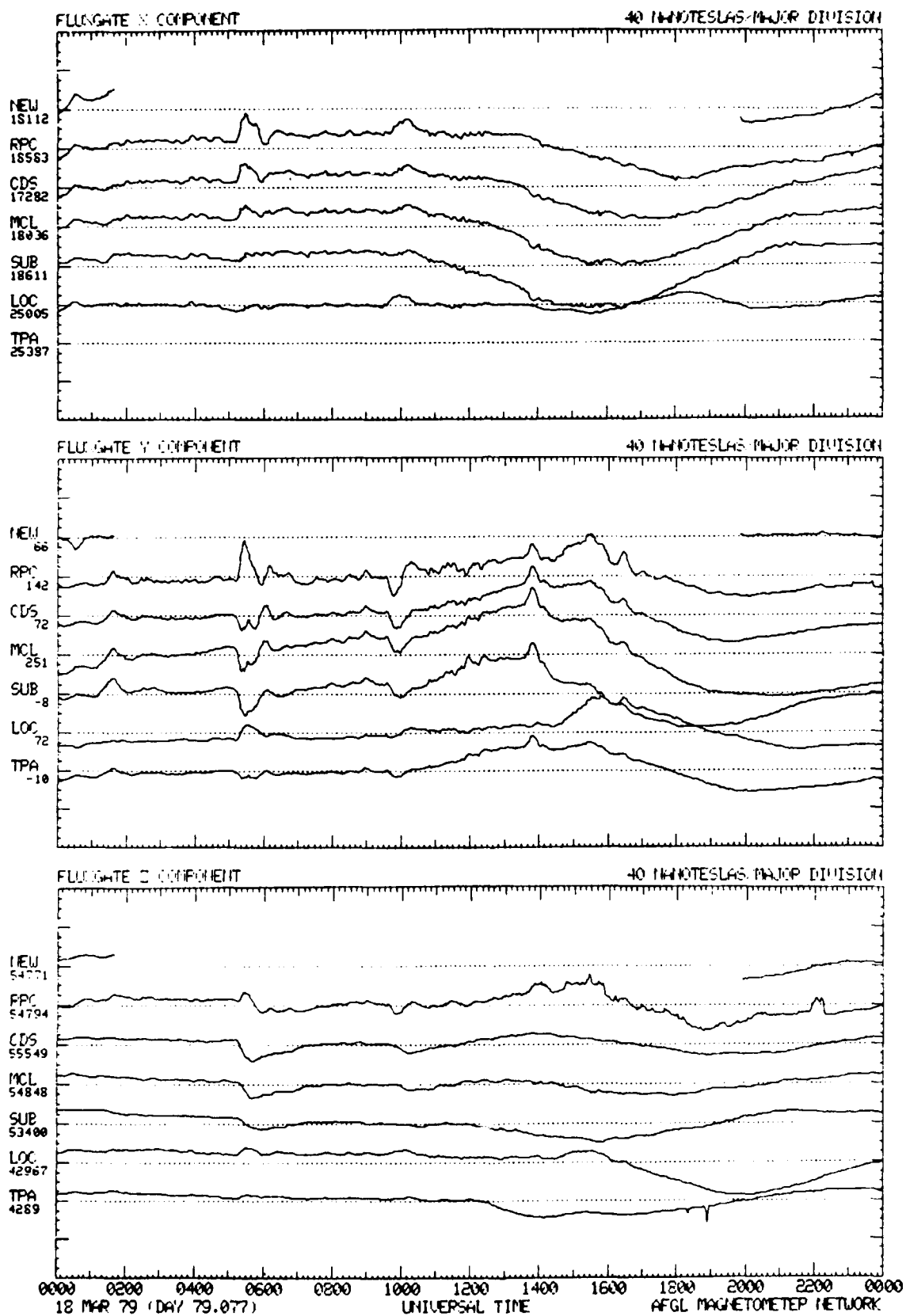


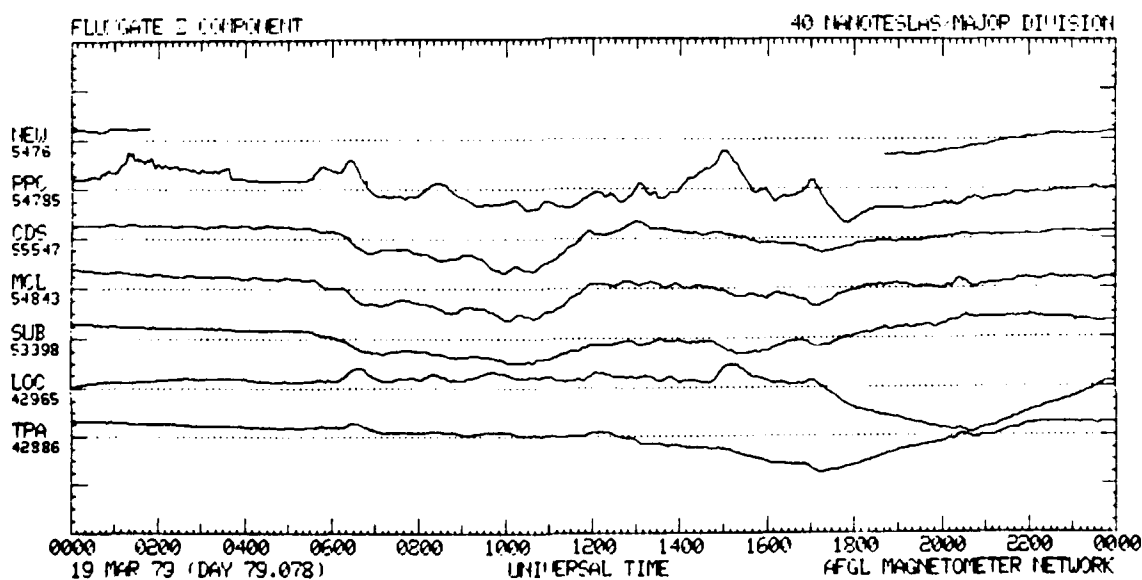
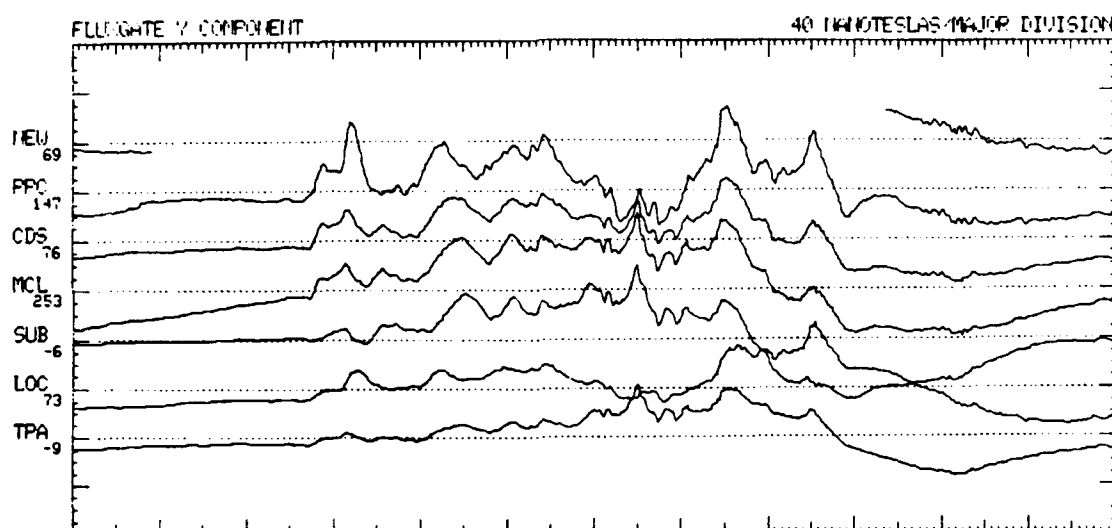
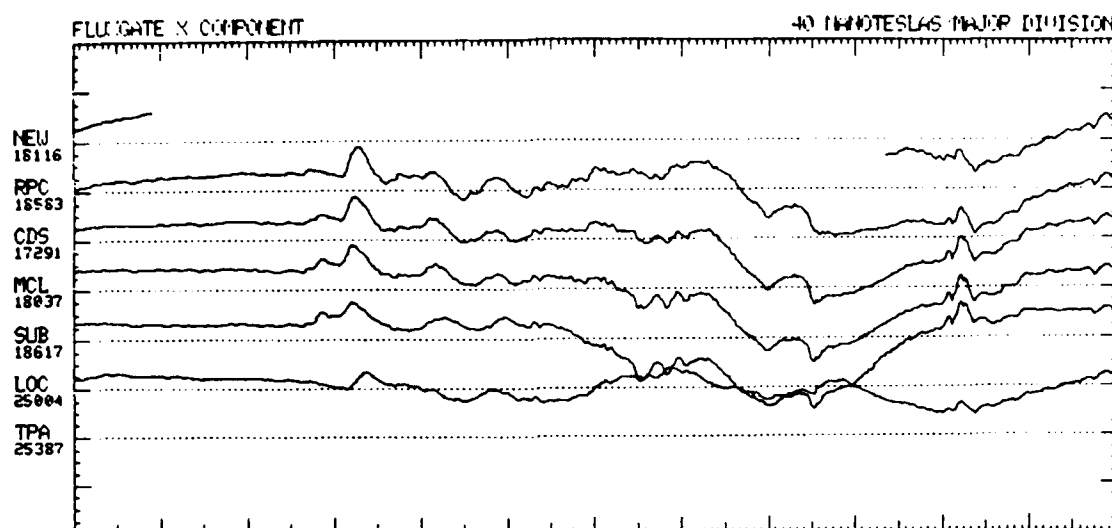


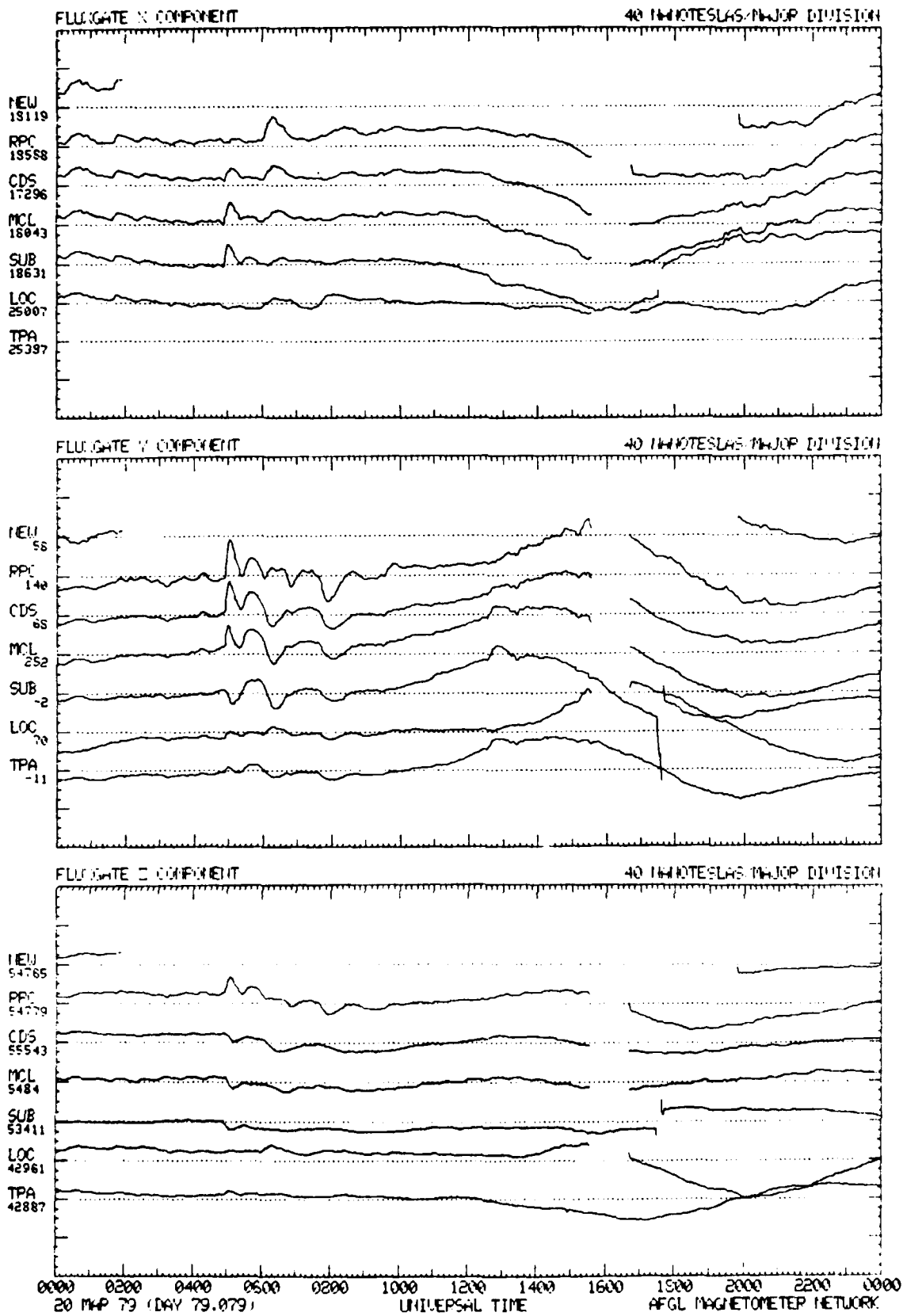


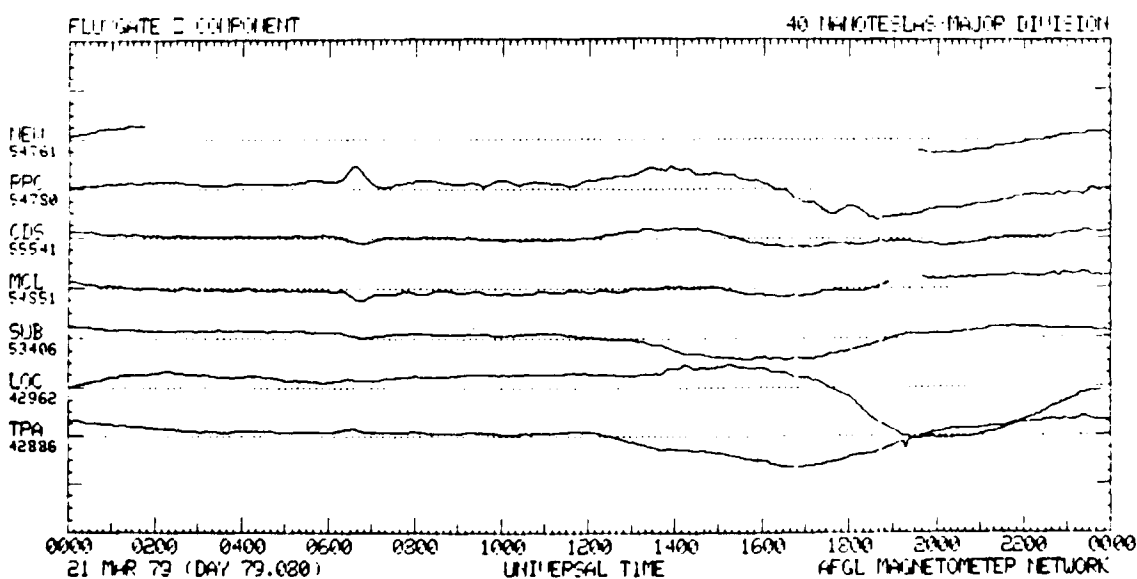
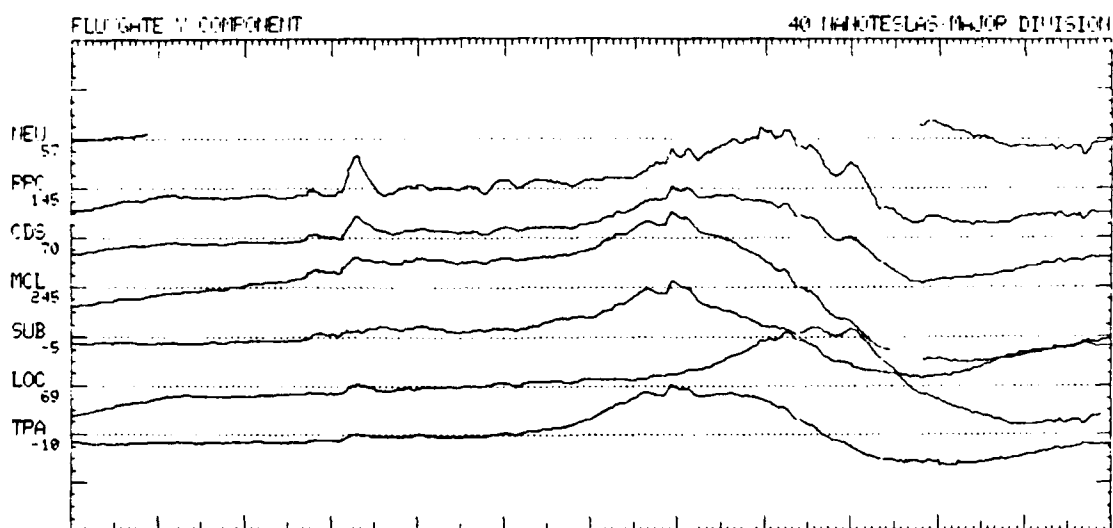
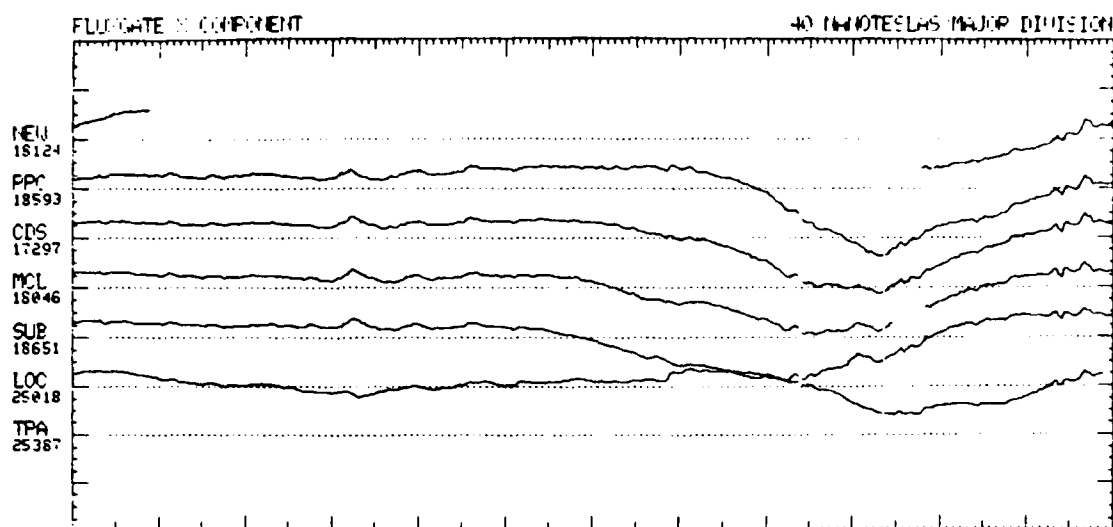


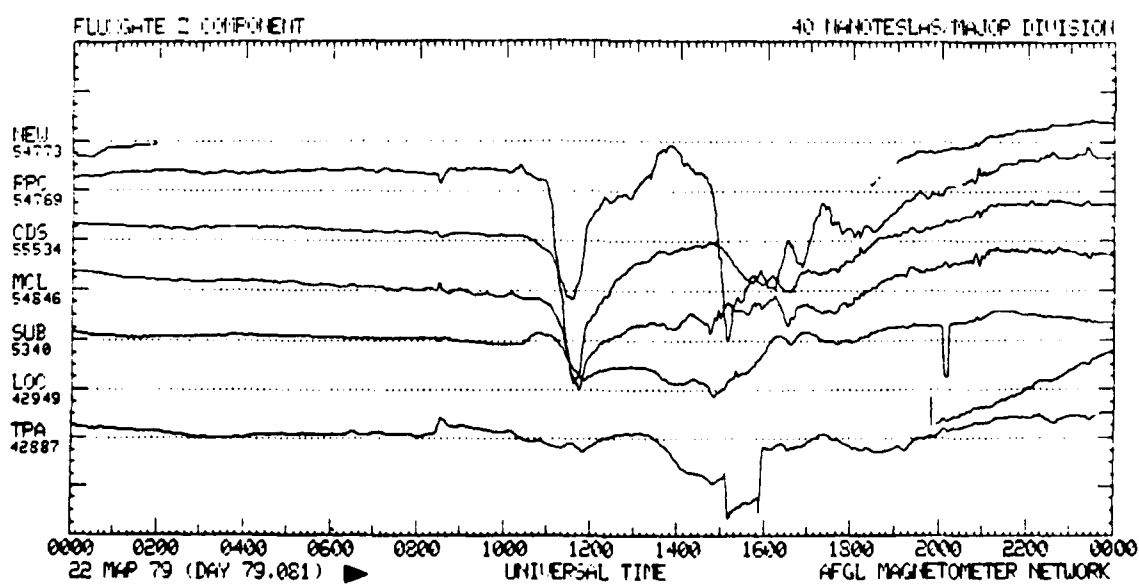
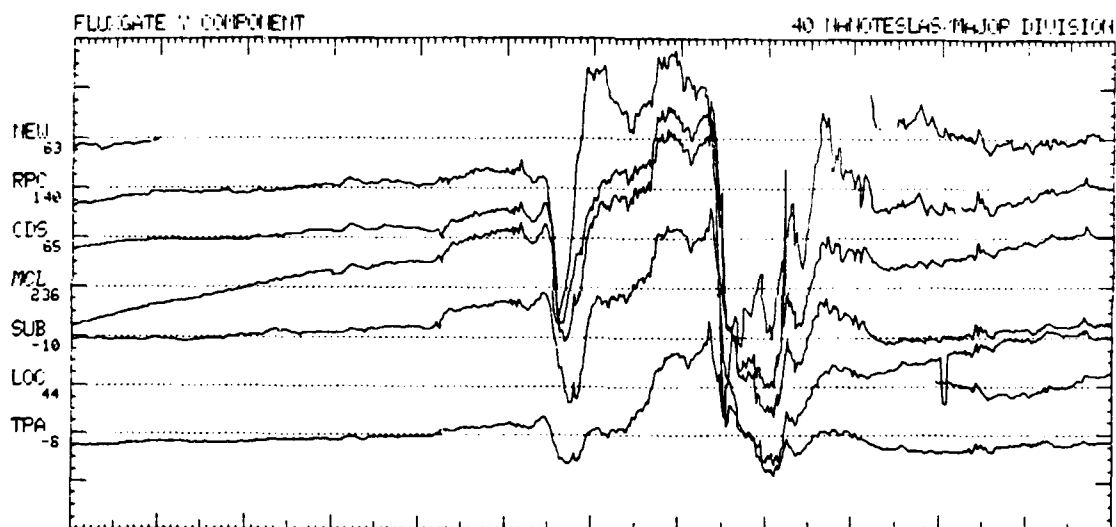
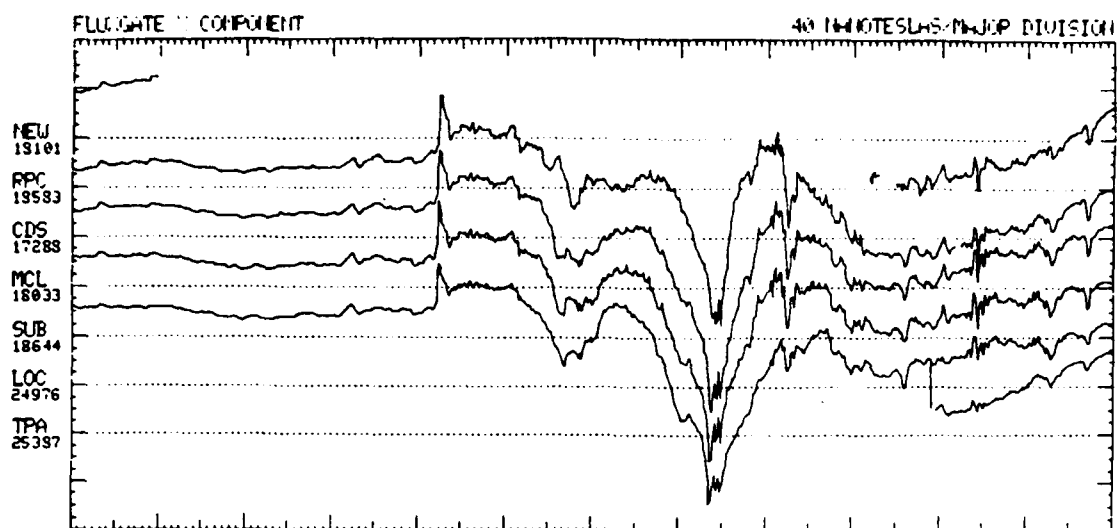


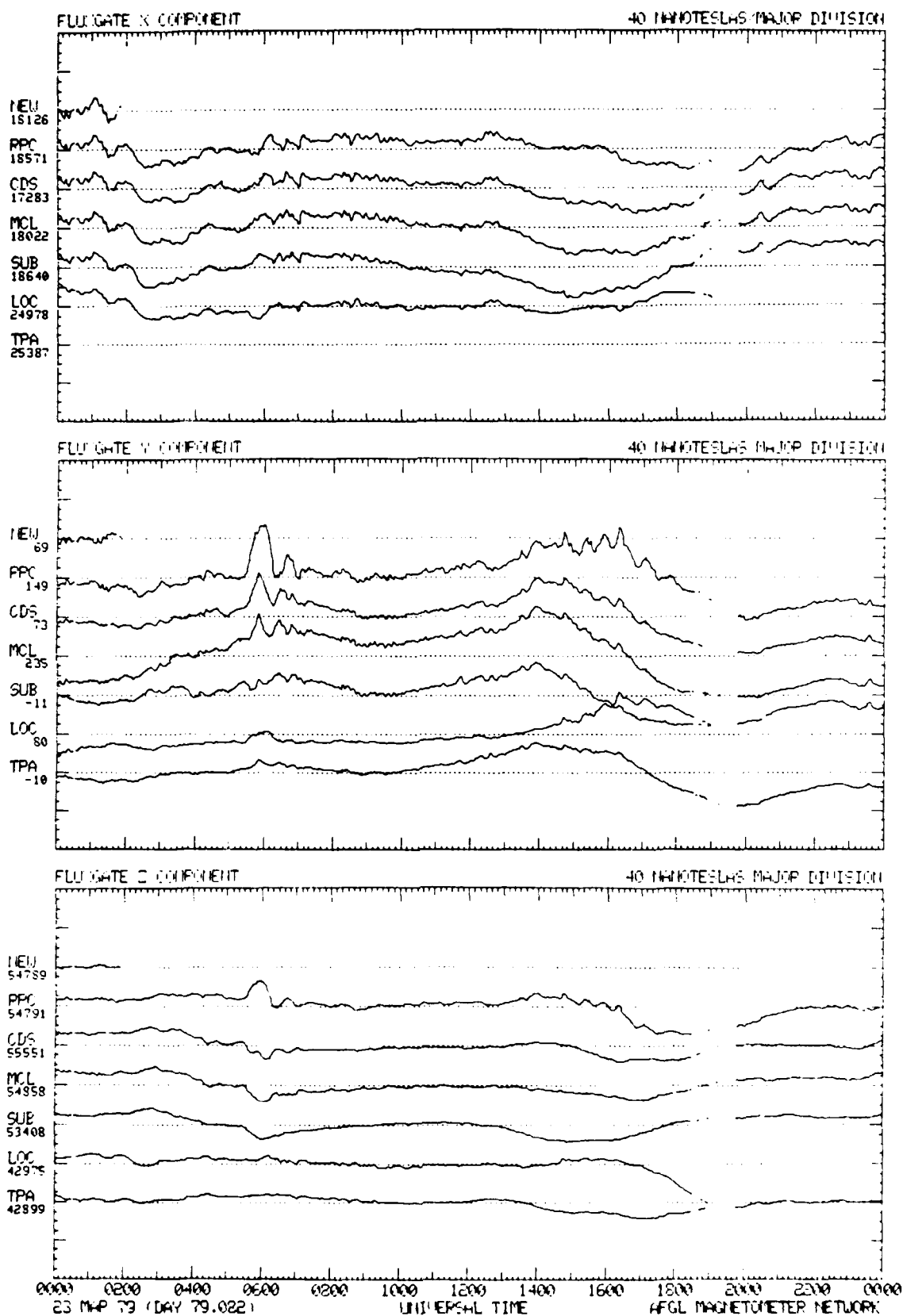


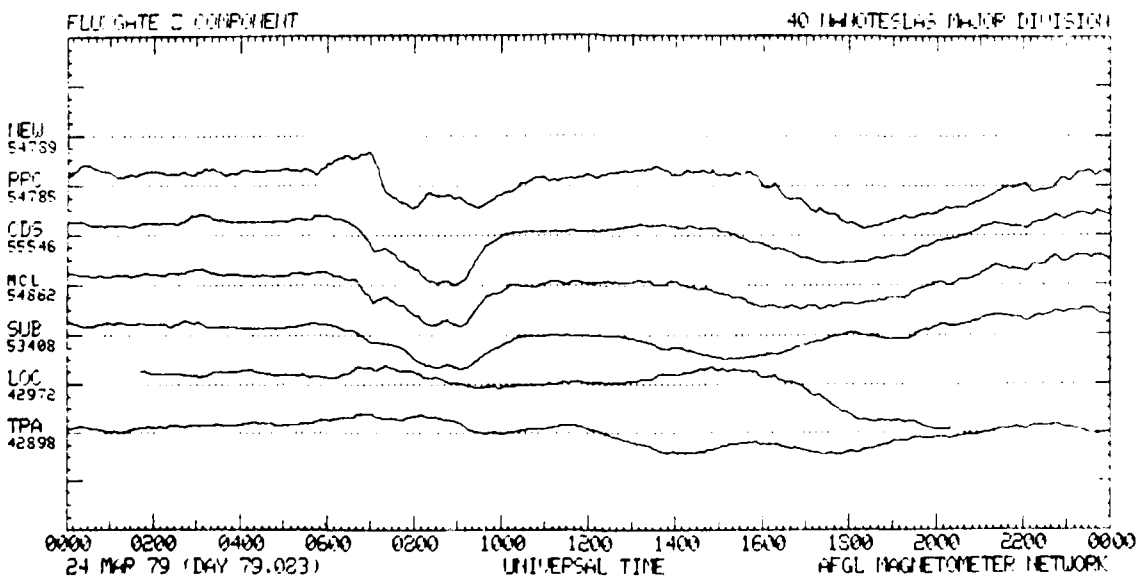
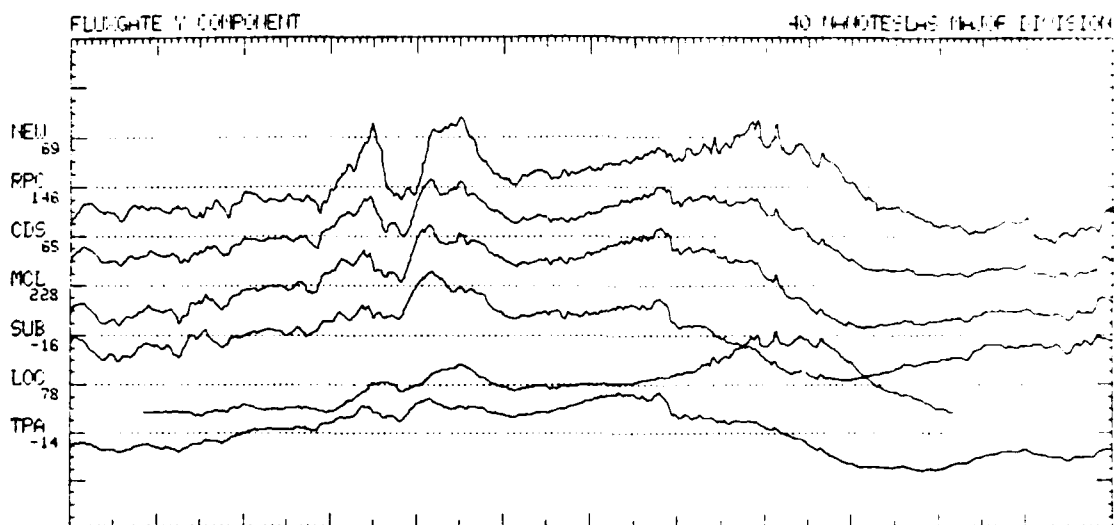
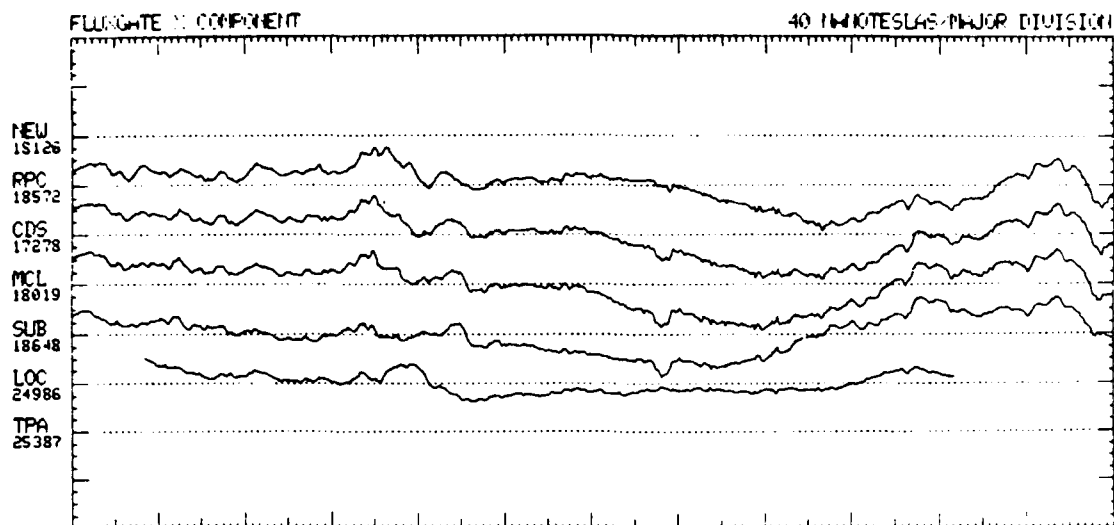












AD-A173 658 DAILY MAGNETOGRAMS FOR 1979 FROM THE AFGL NETWORK(U)
AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA D J KNECHT
22 FEB 85 AFGL-TR-85-0028

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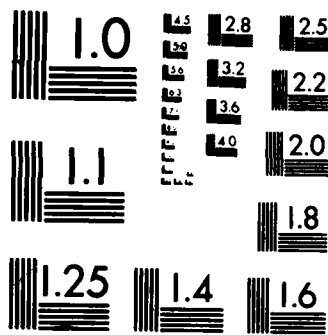
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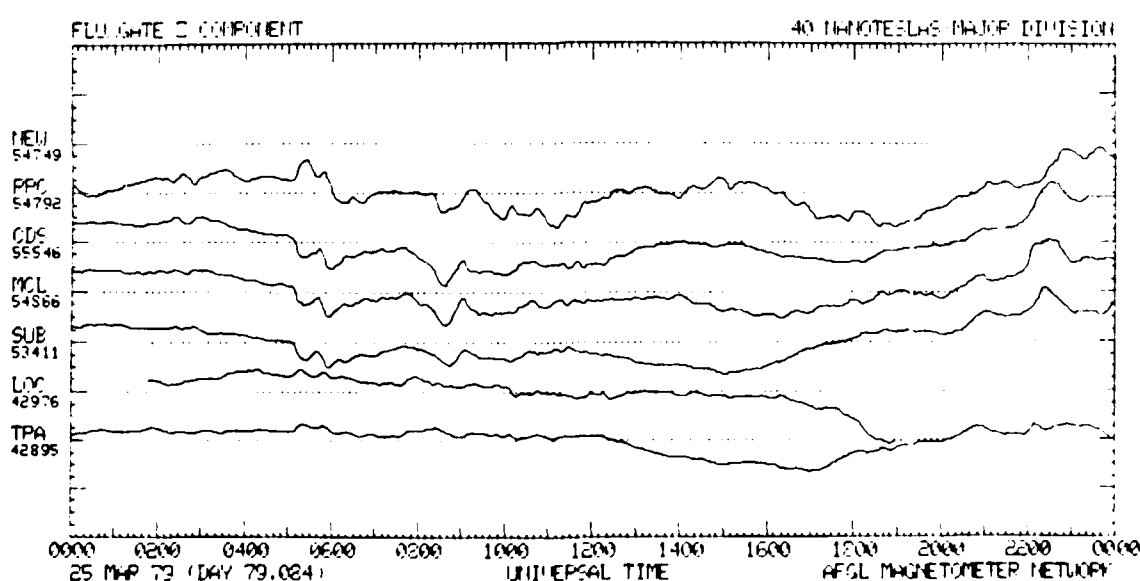
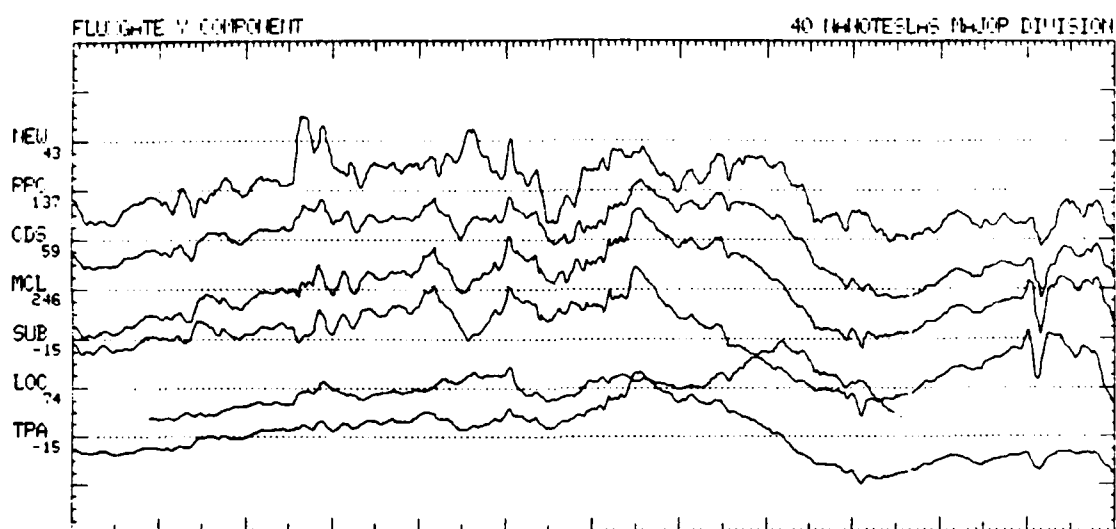
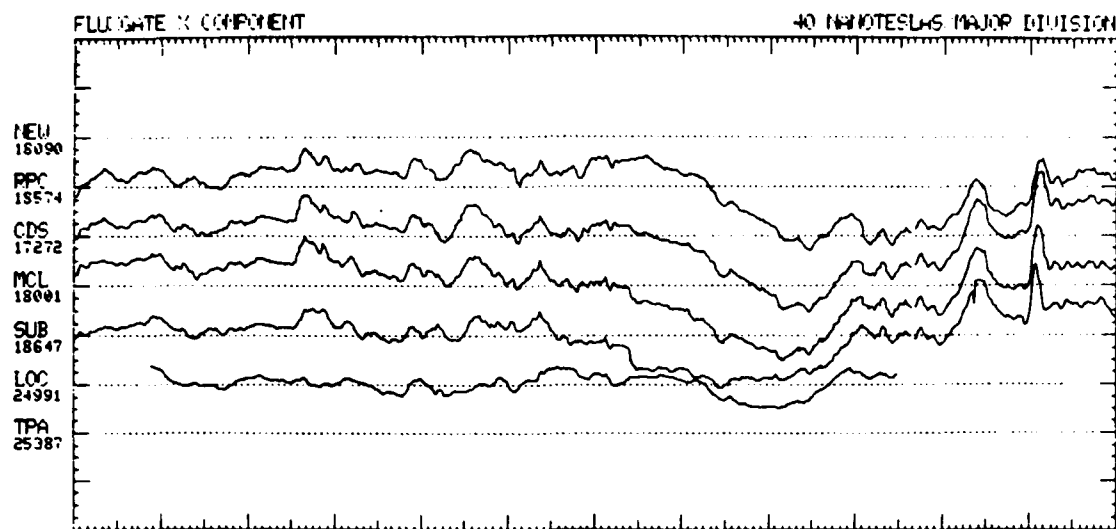
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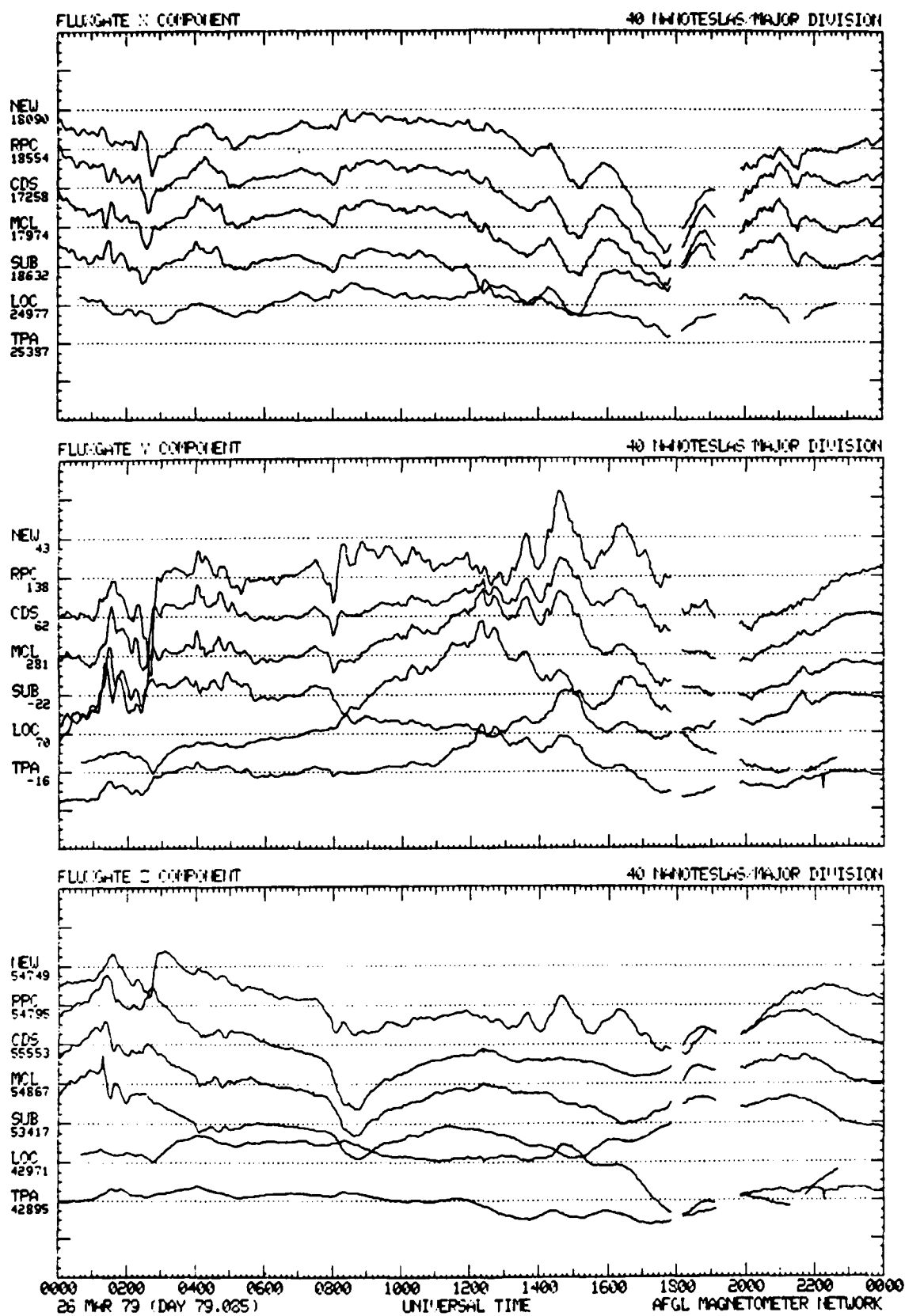
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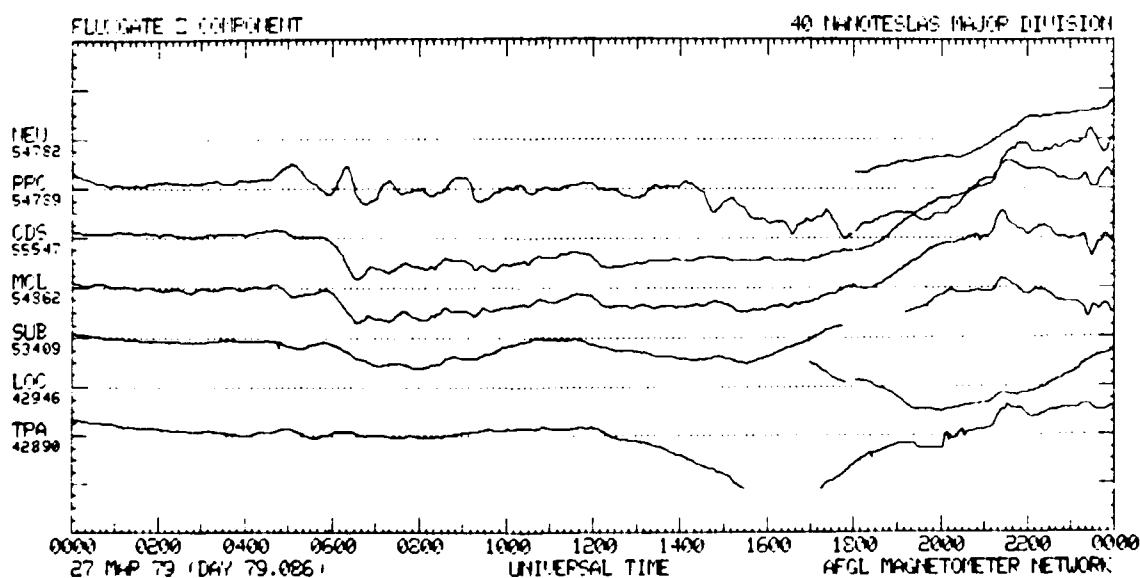
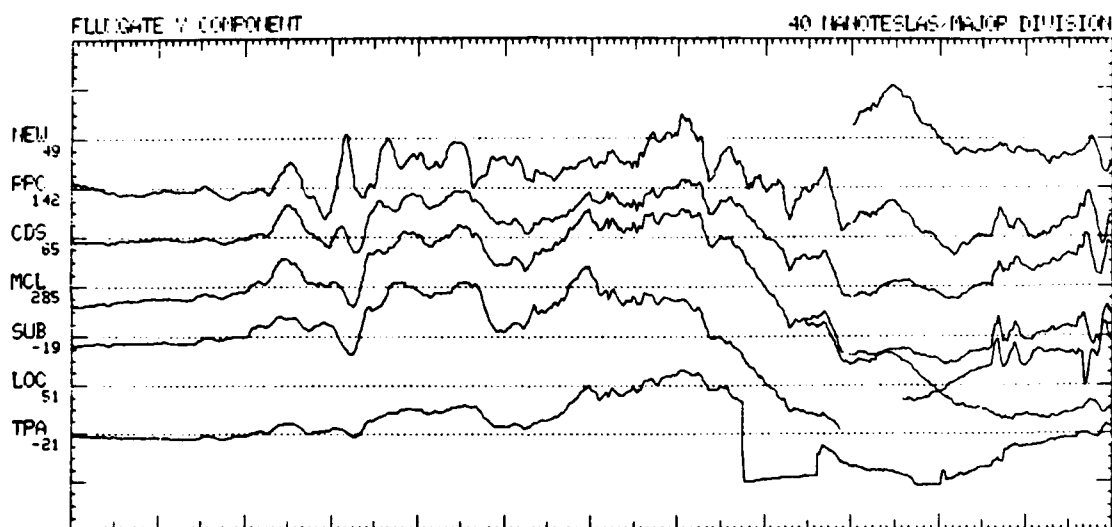
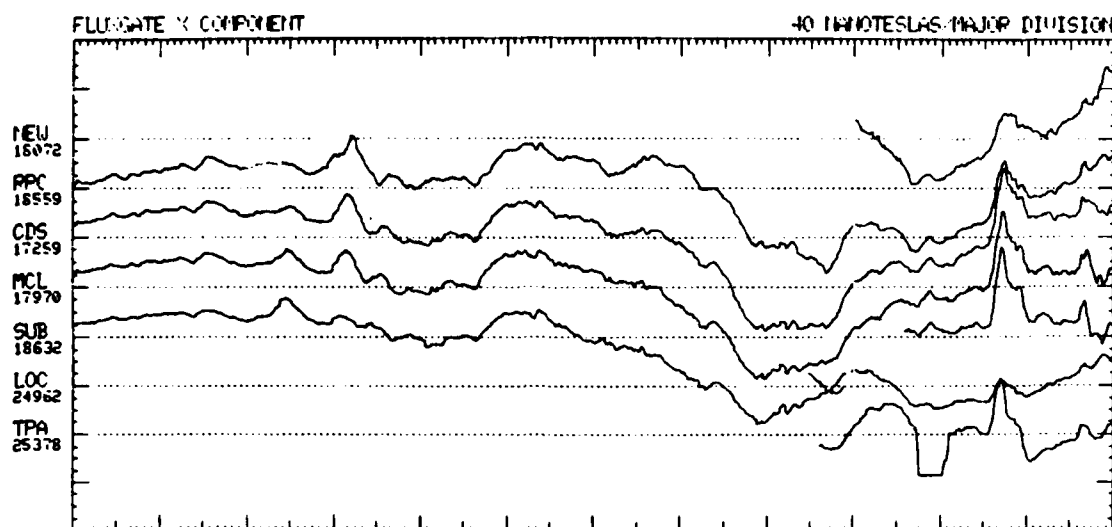
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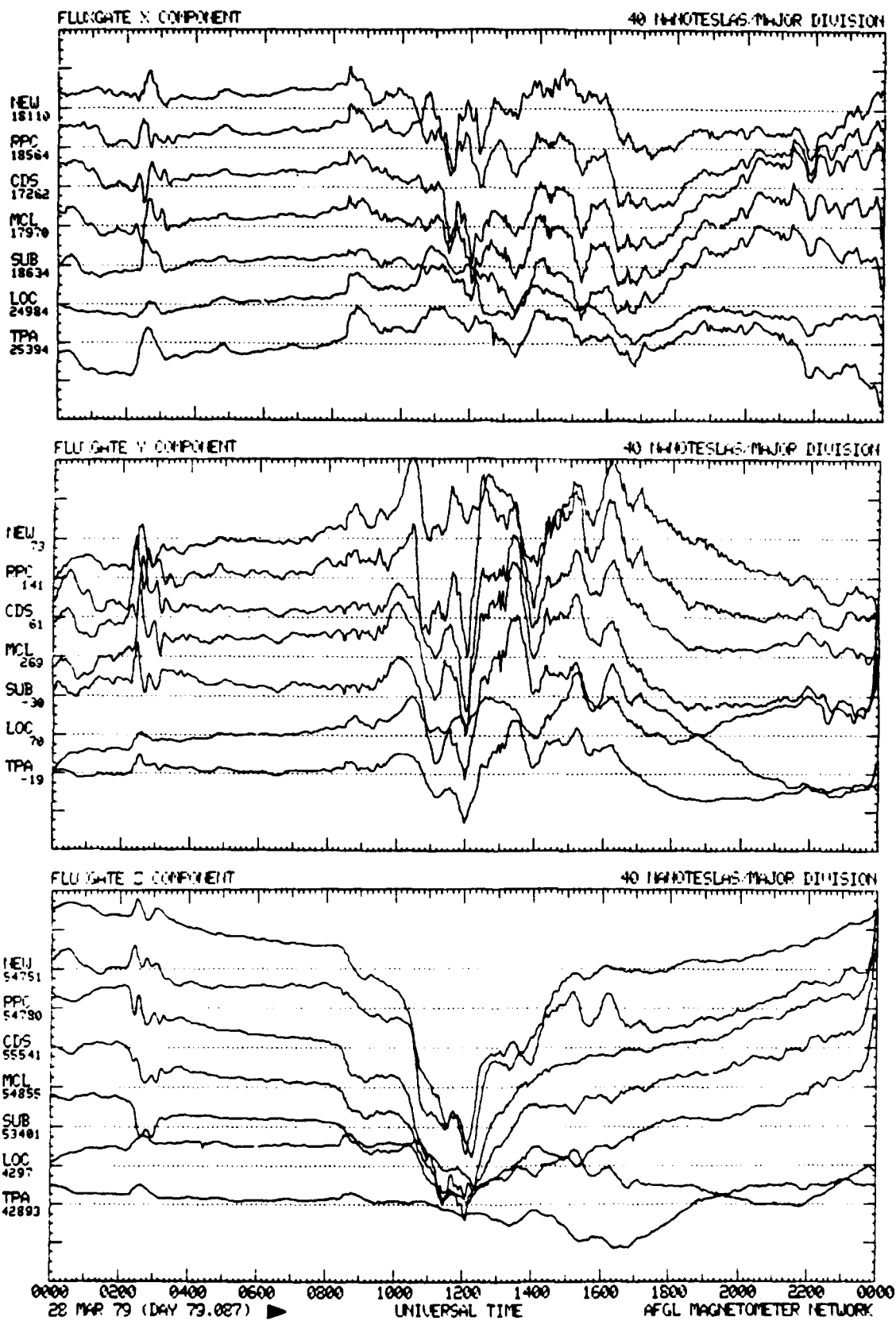


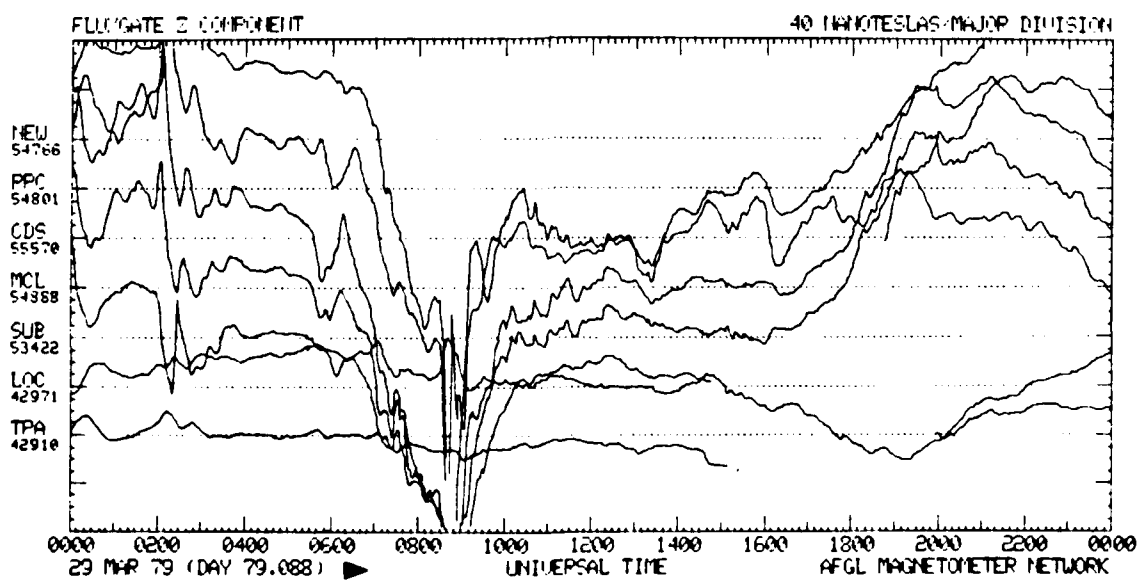
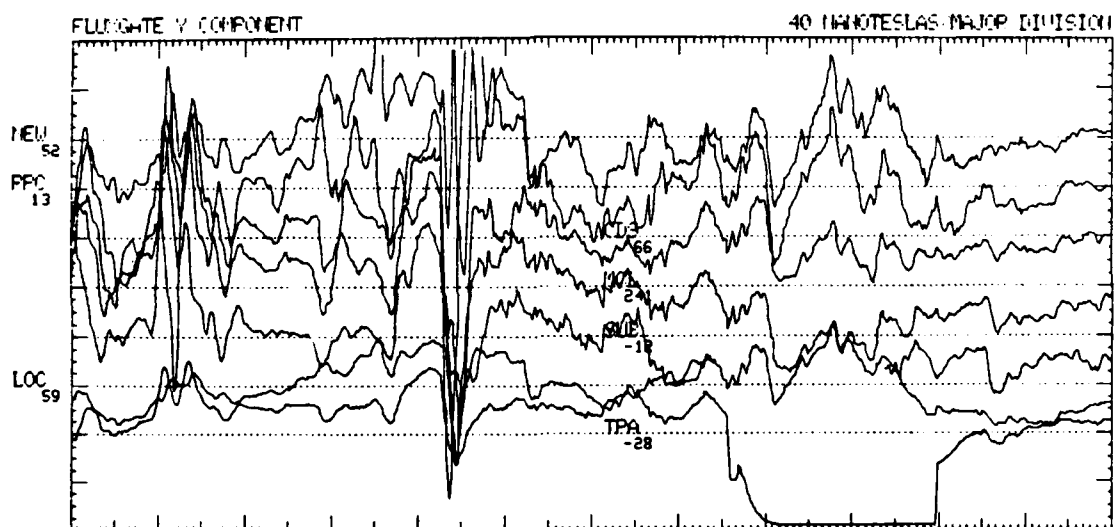
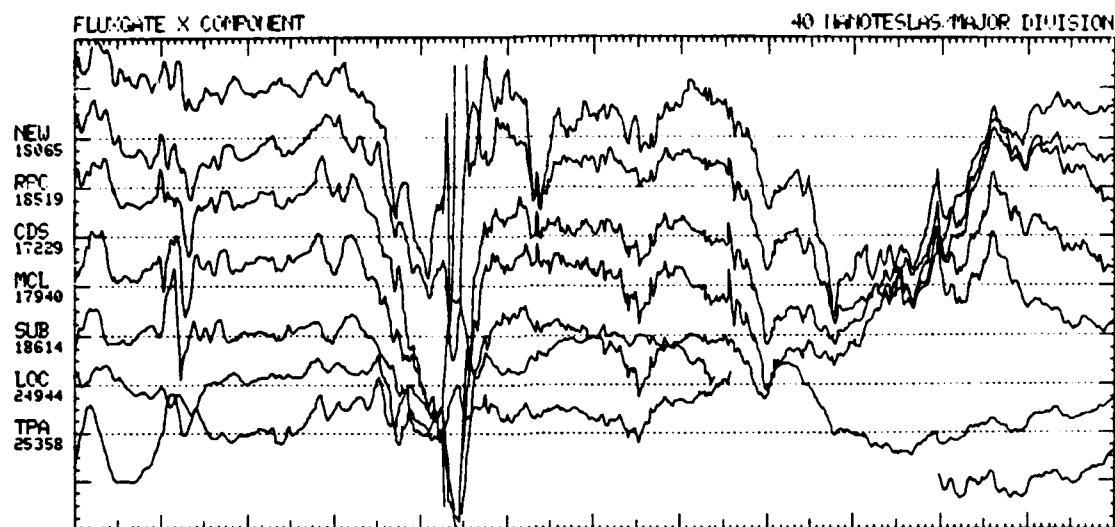
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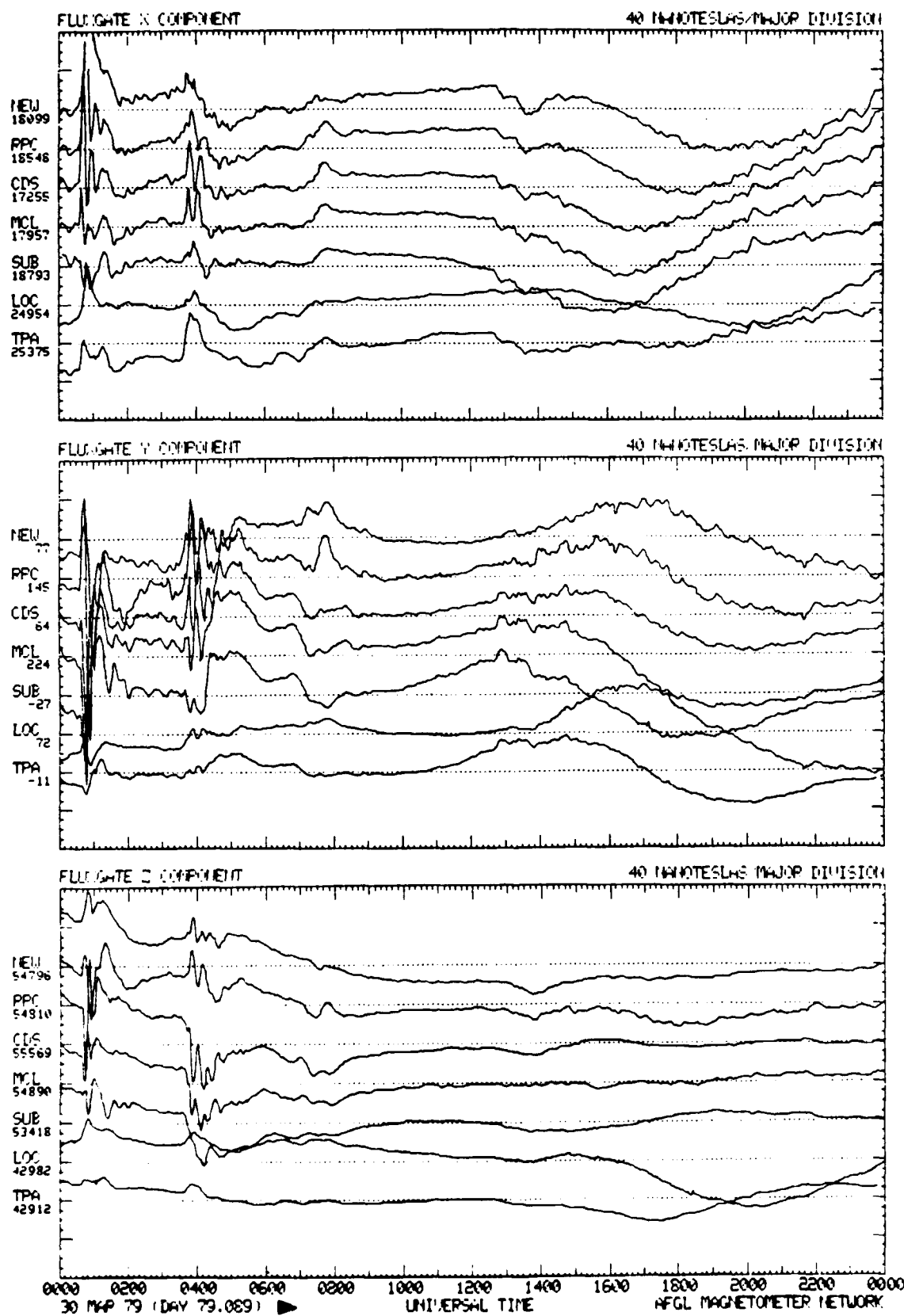


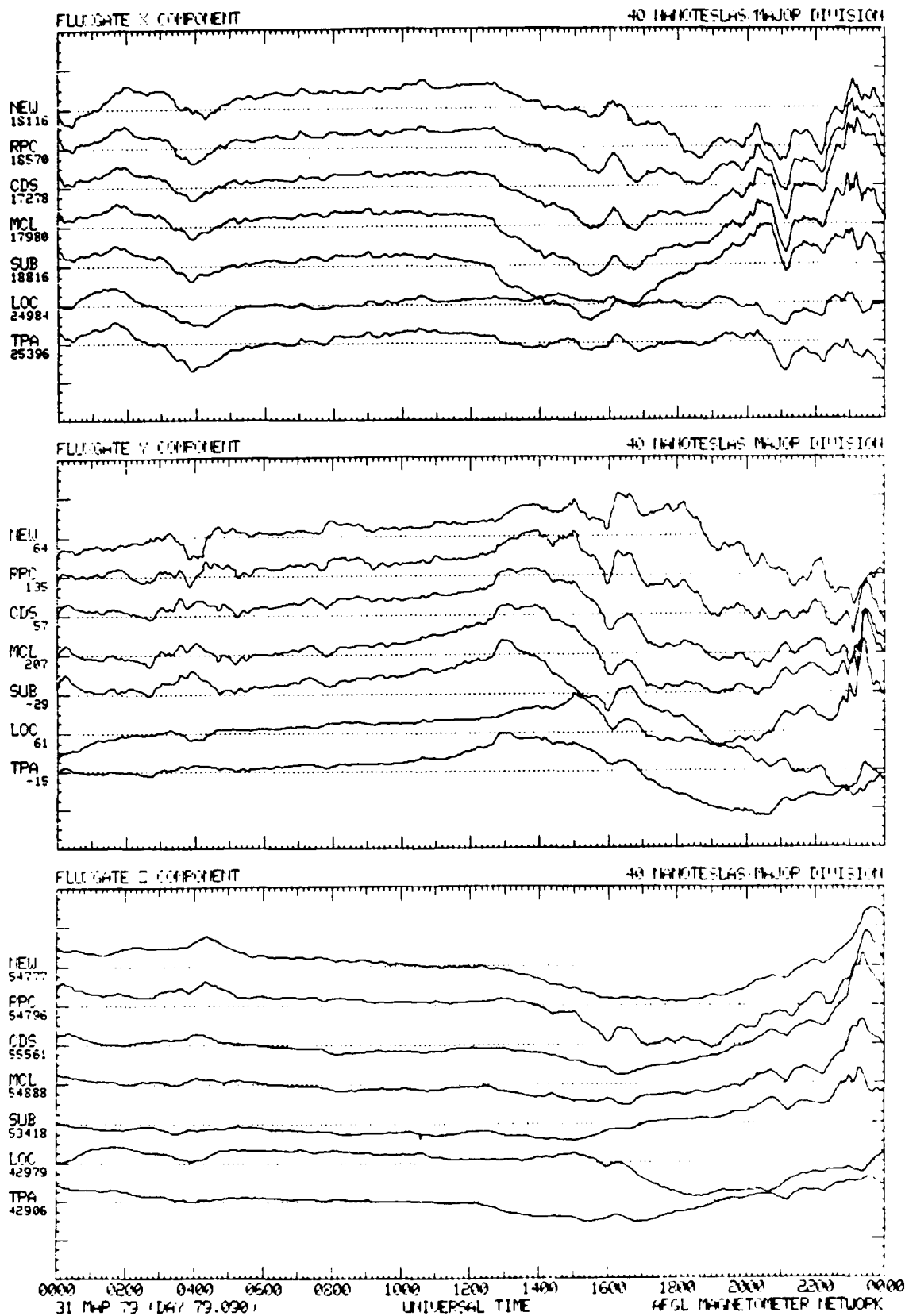


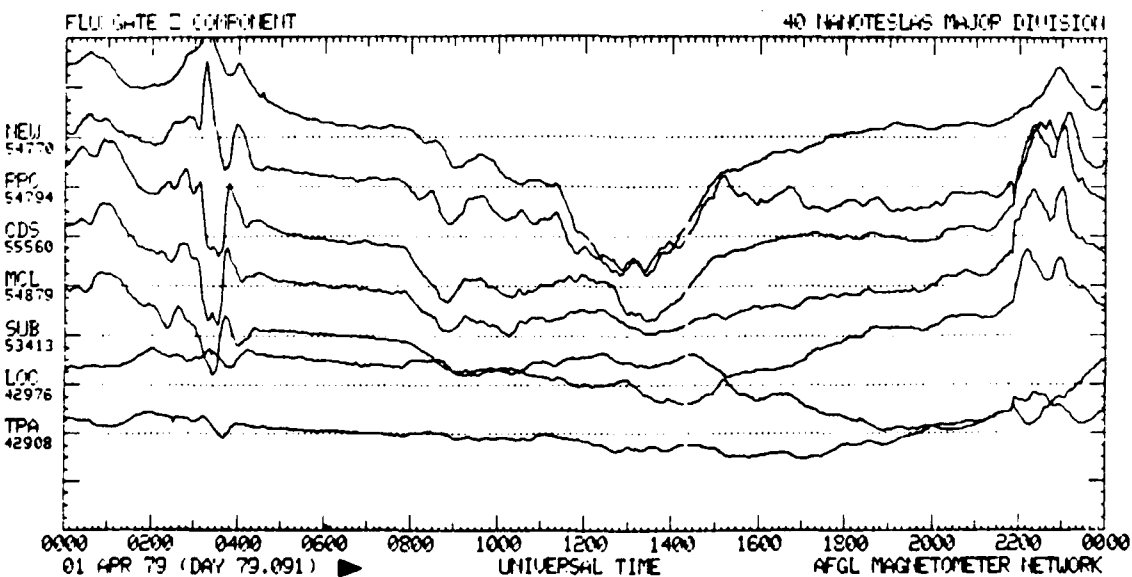
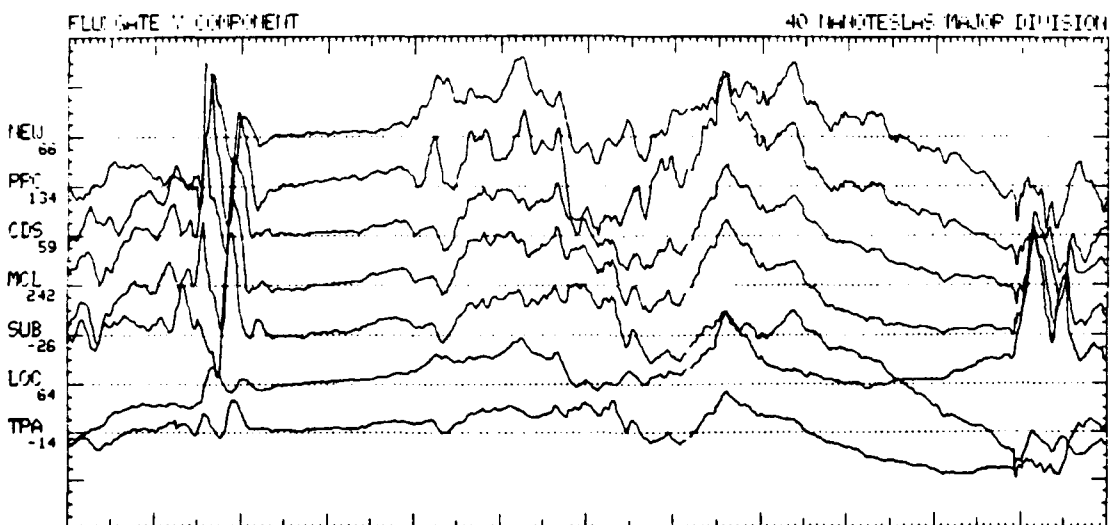
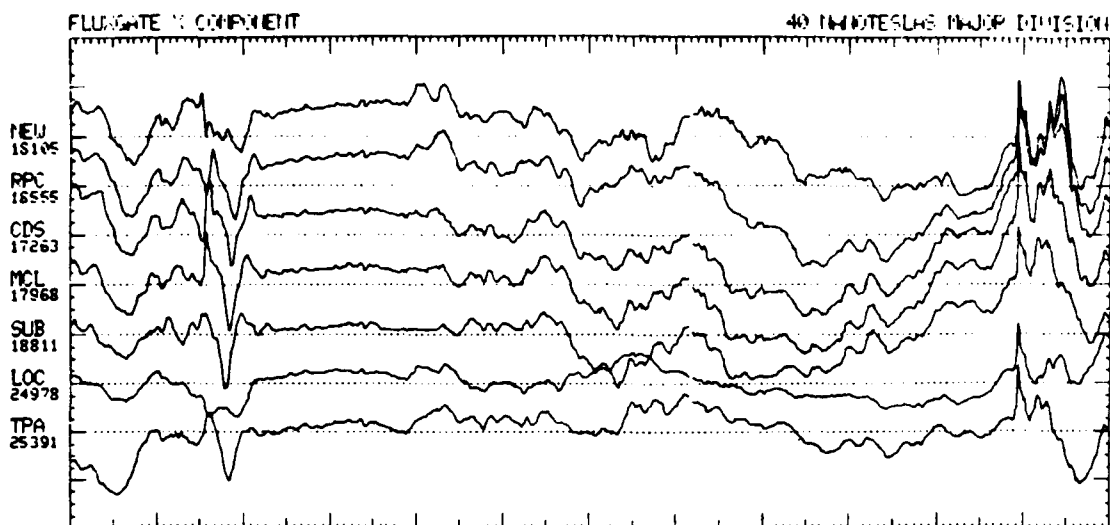


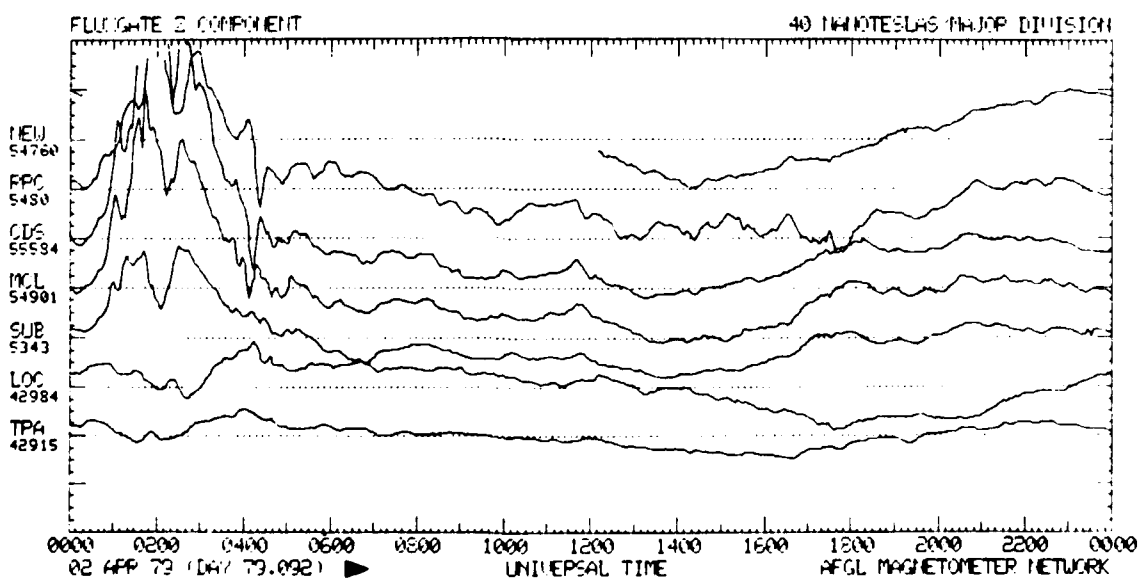
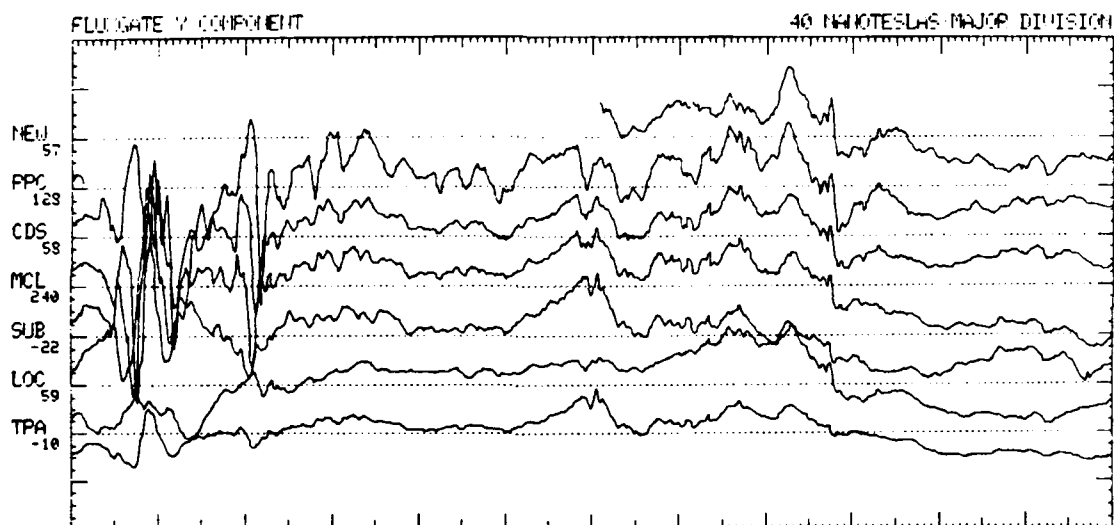
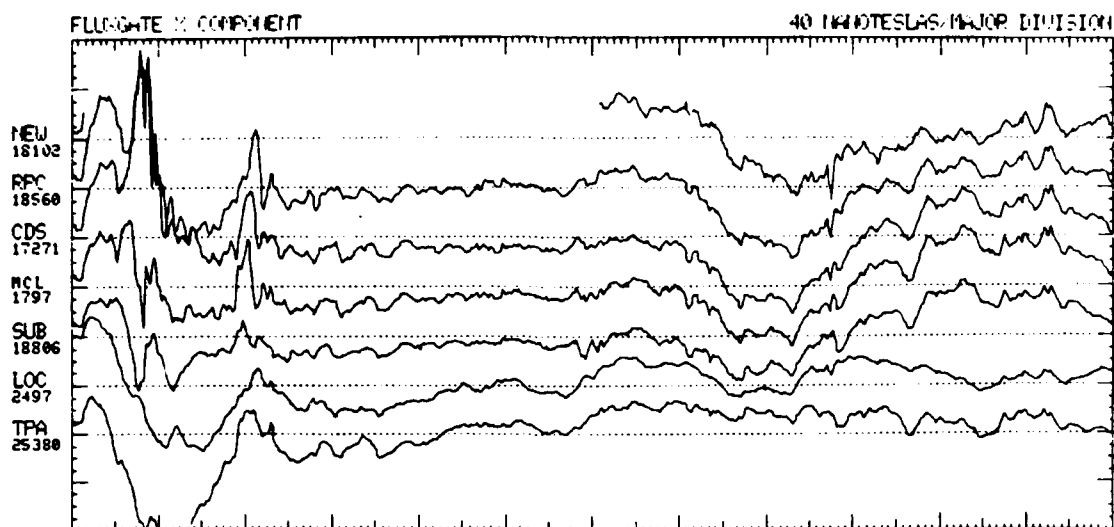


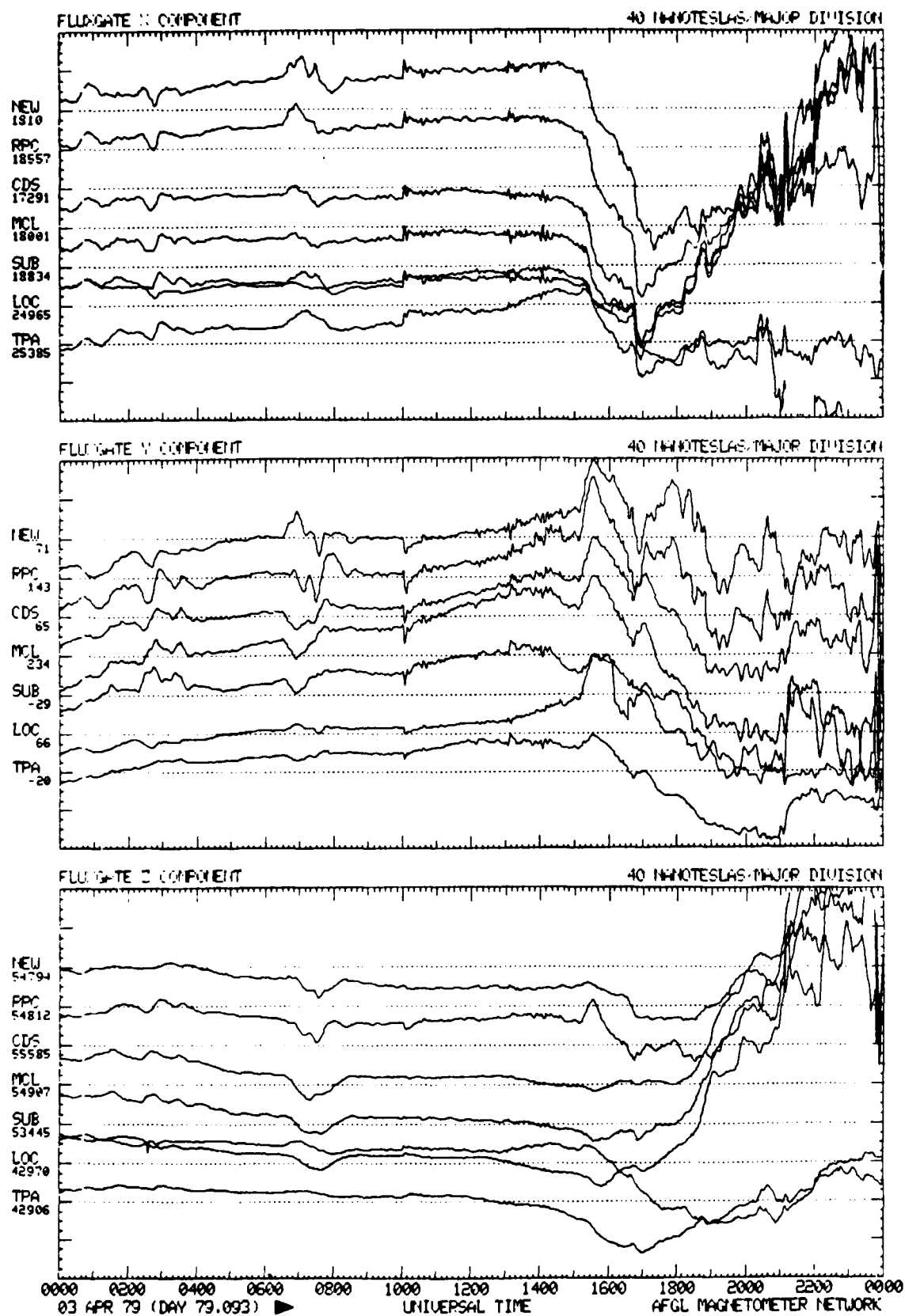


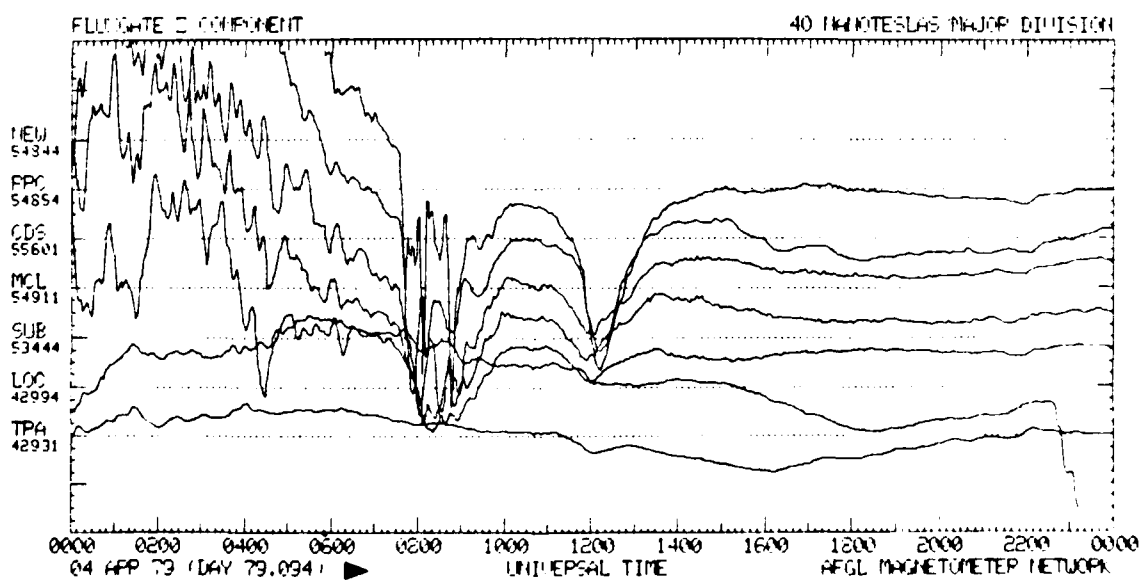
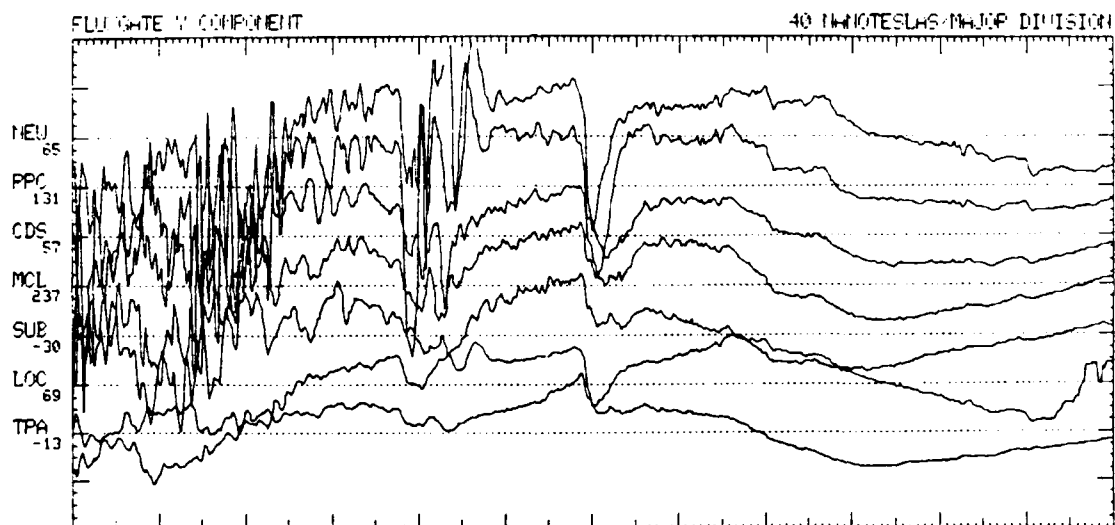
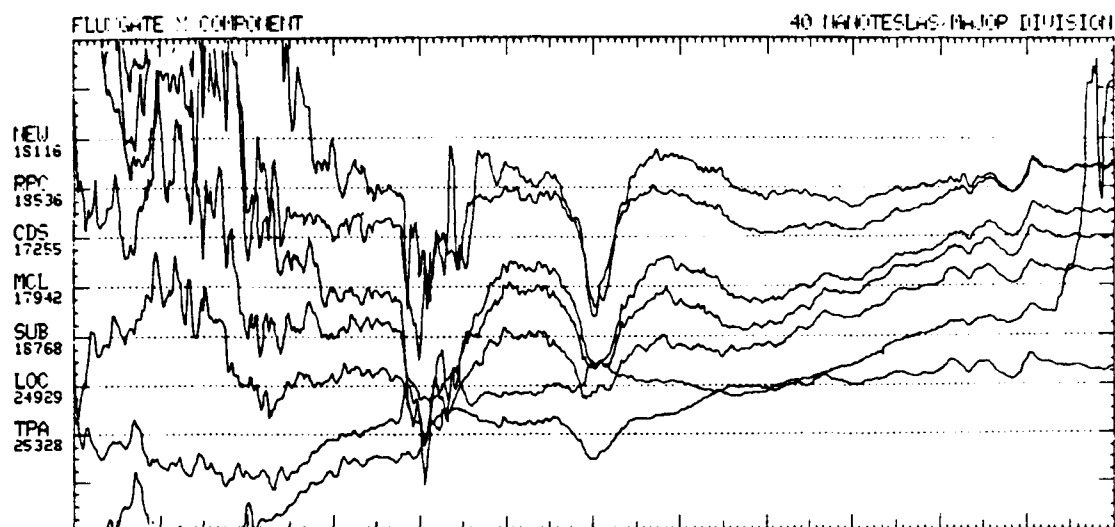


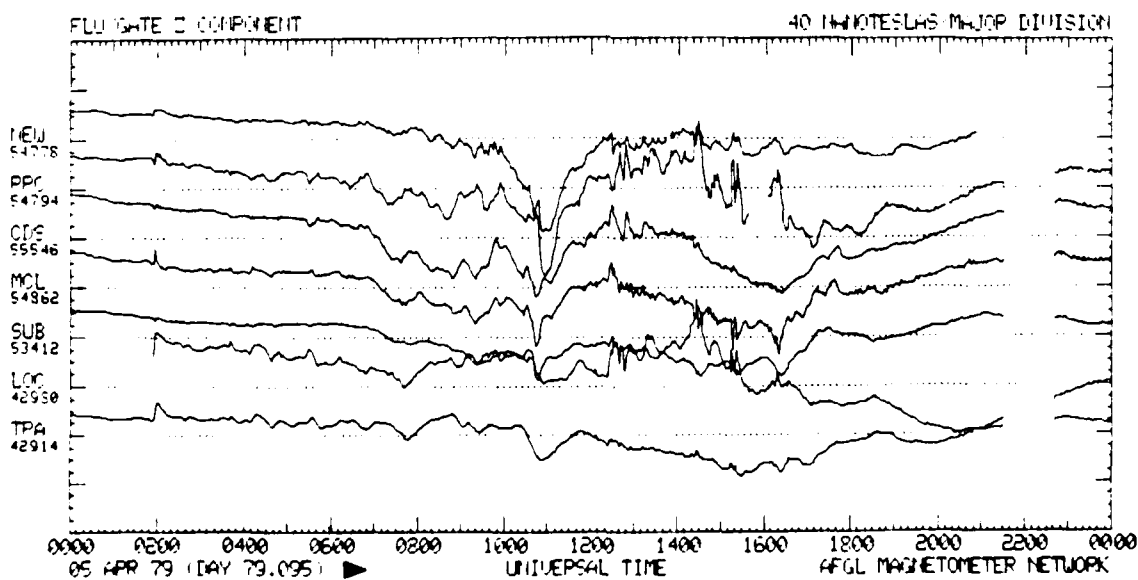
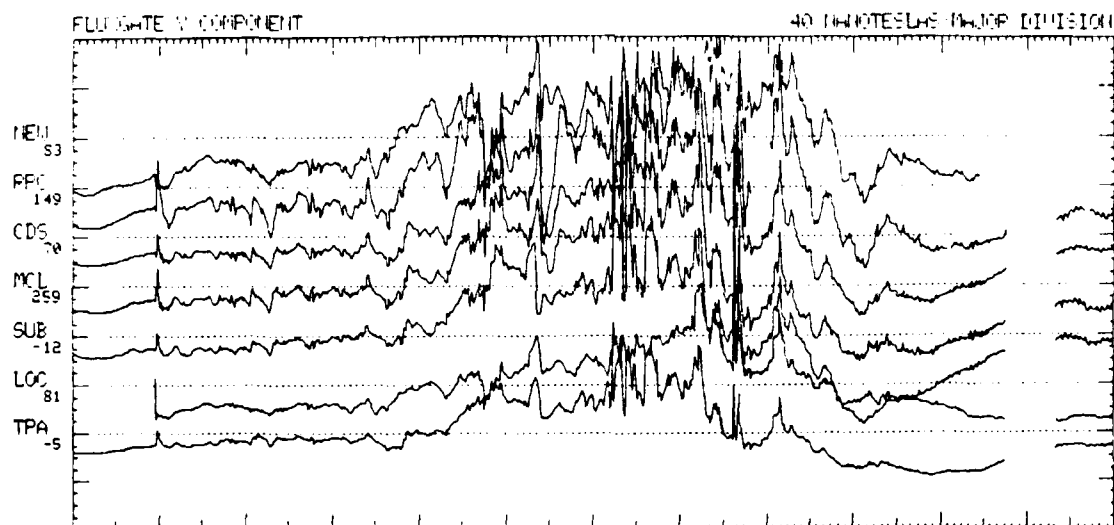
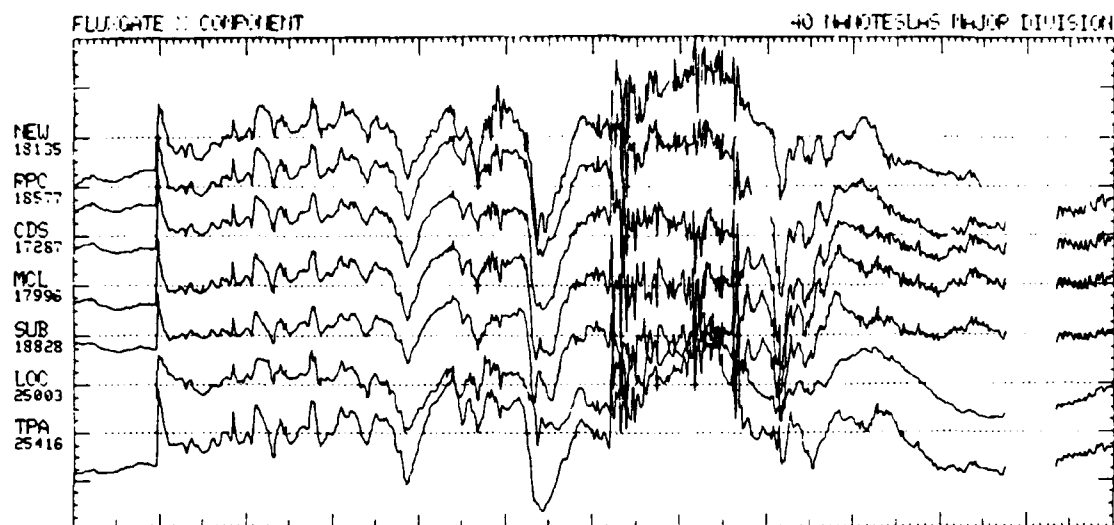


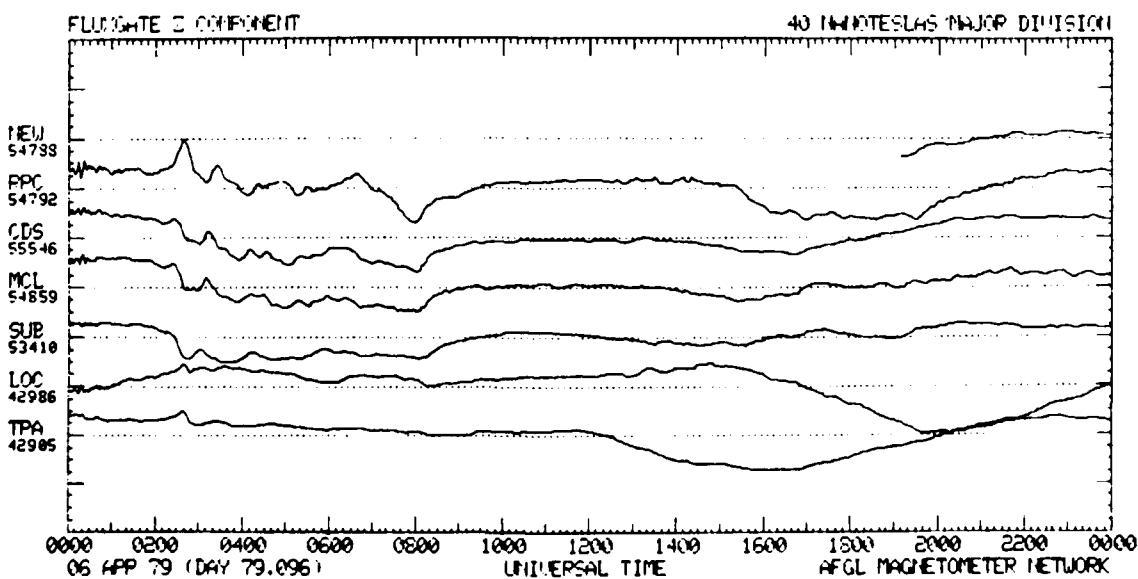
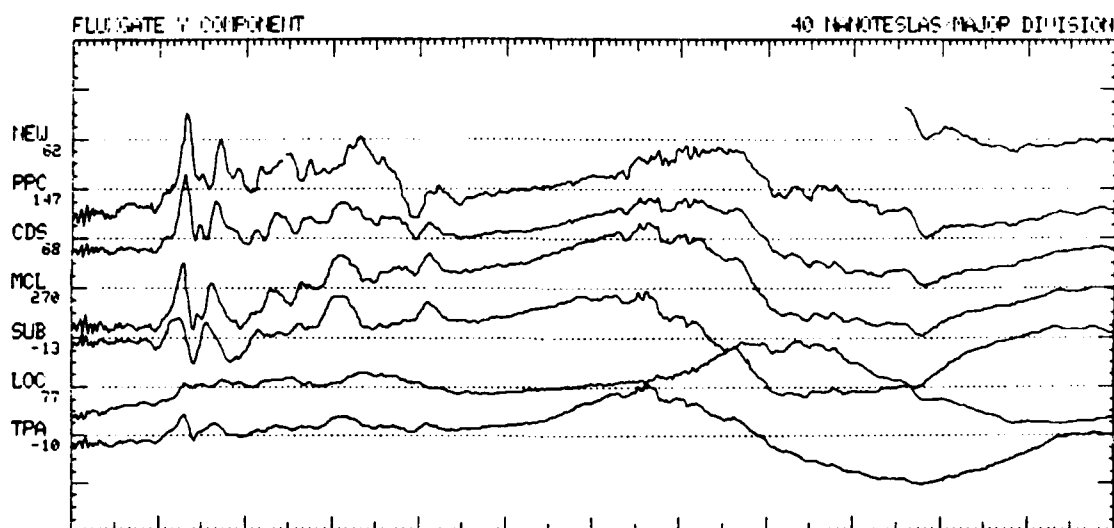
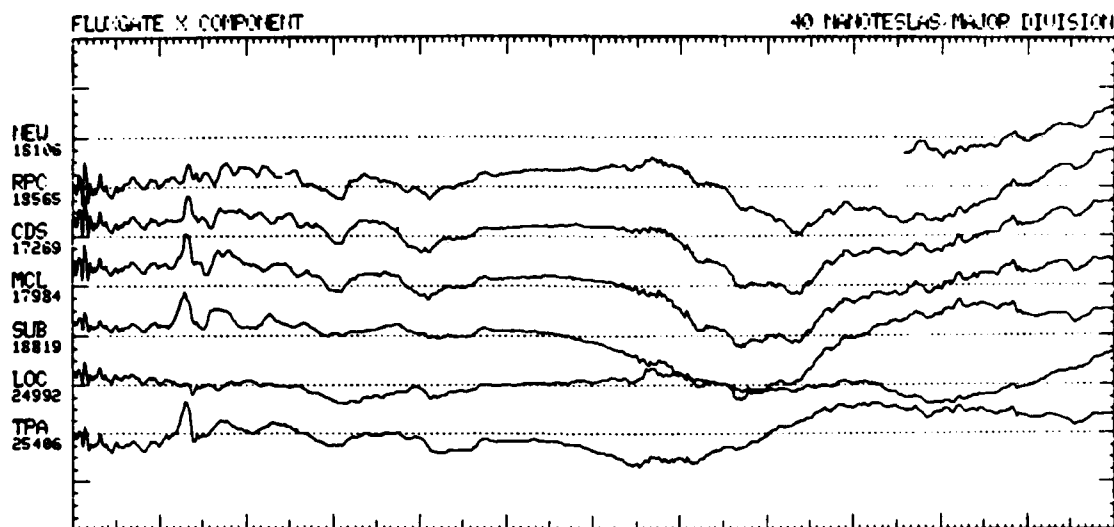


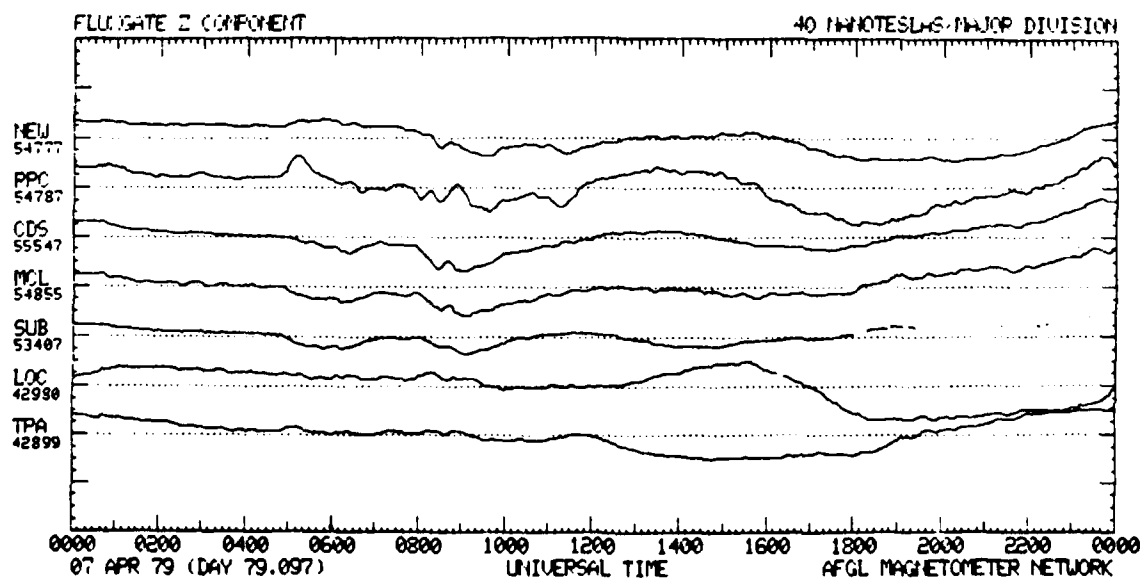
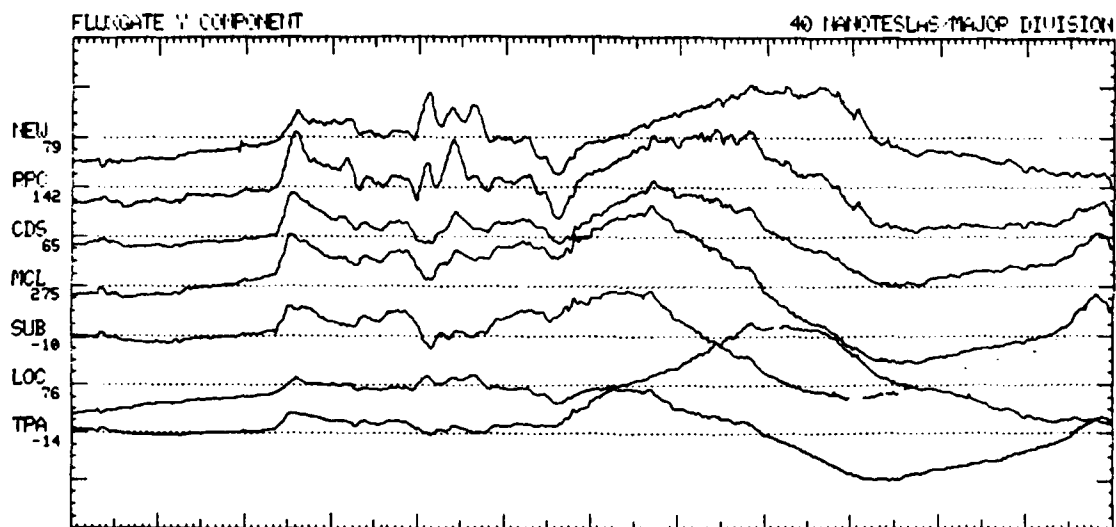
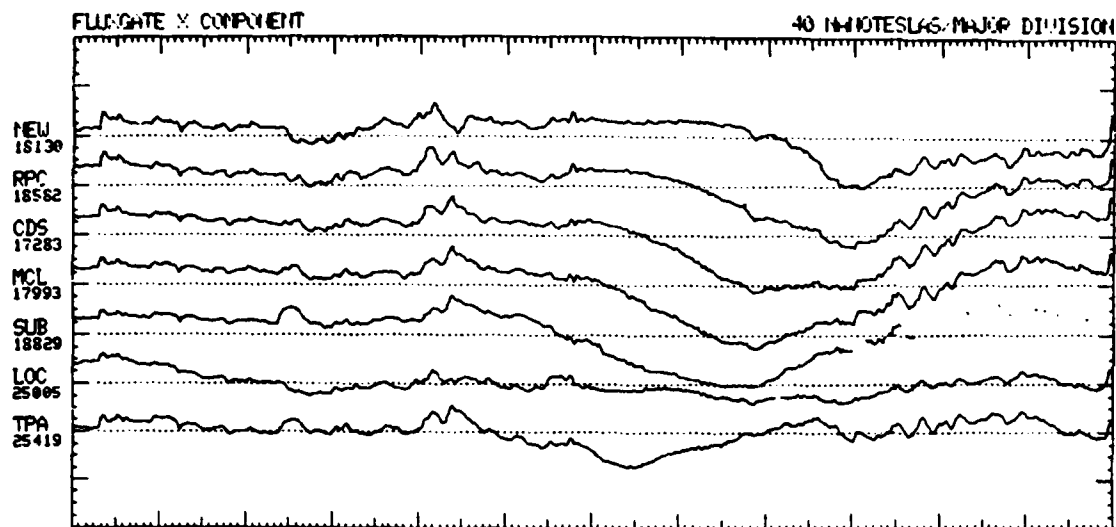


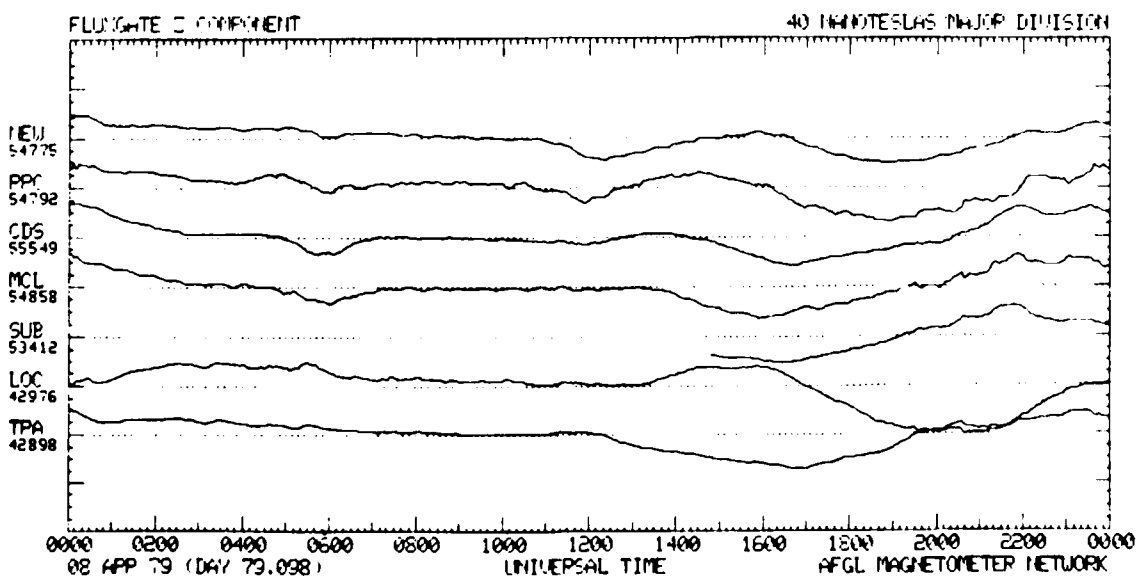
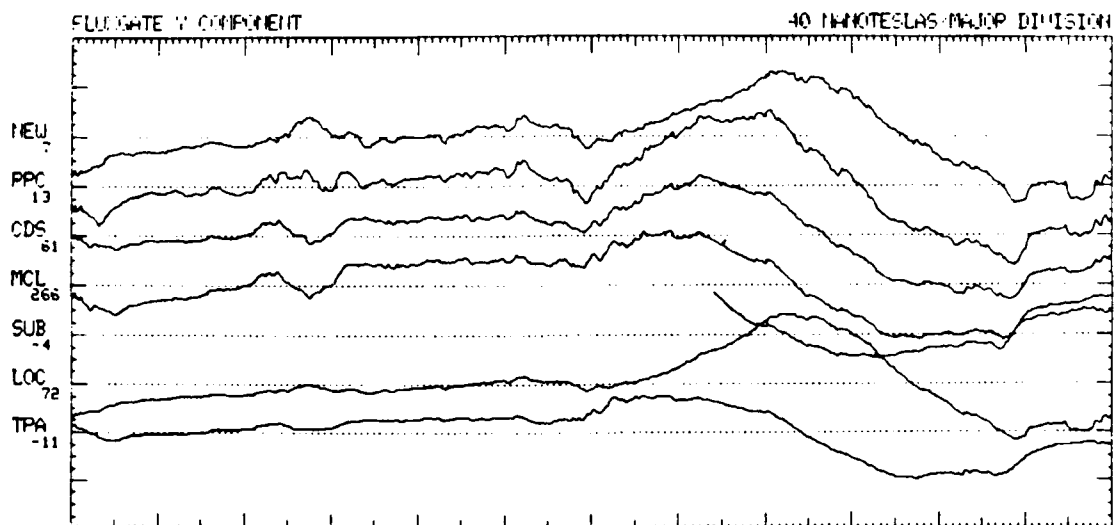
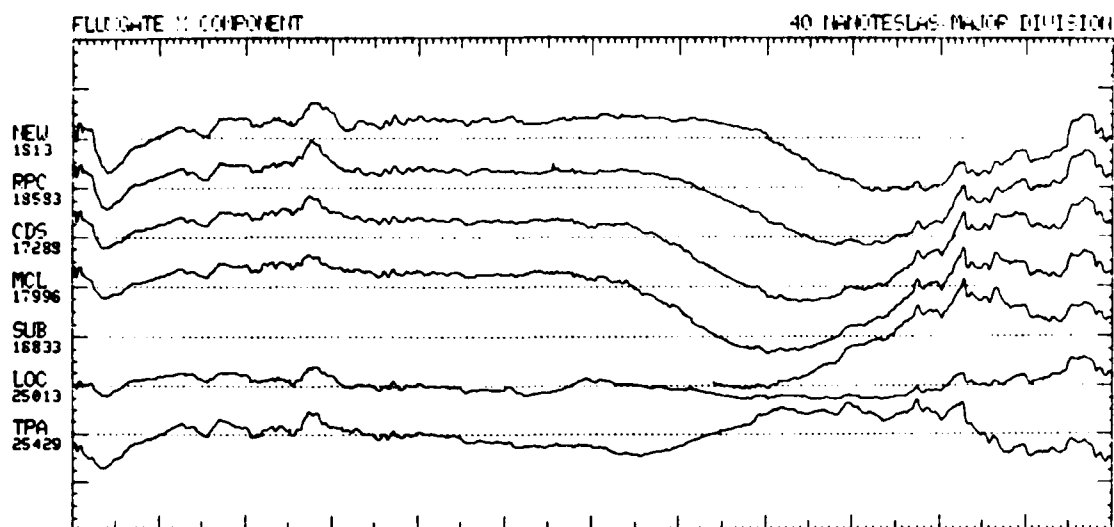


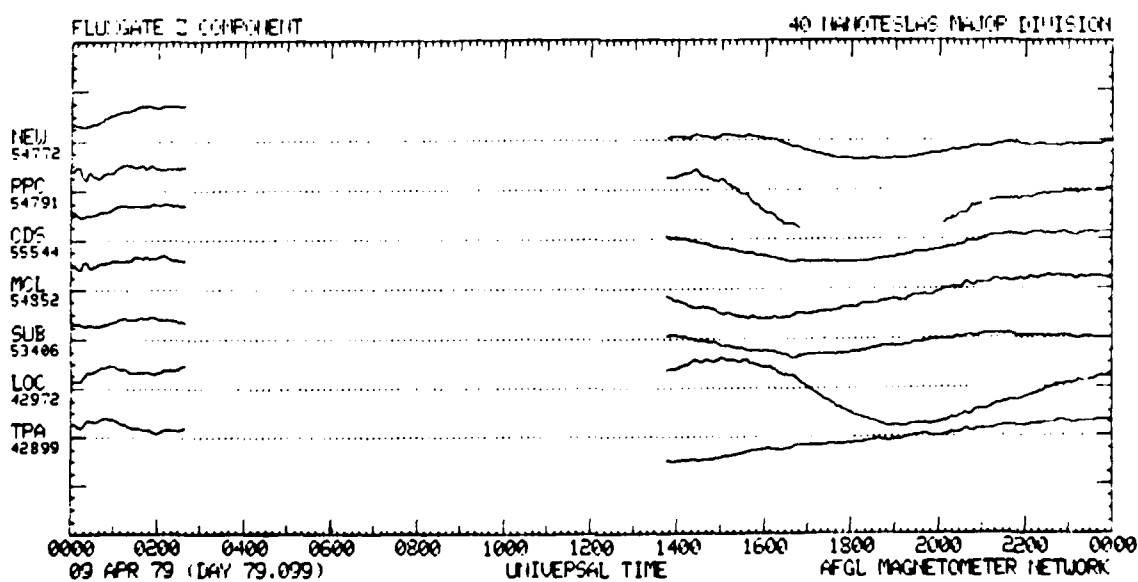
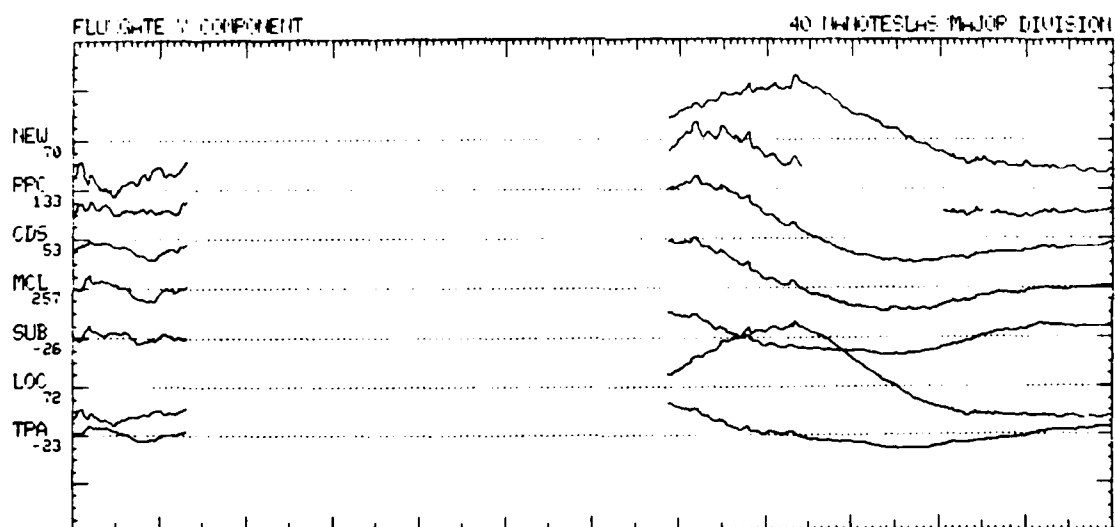
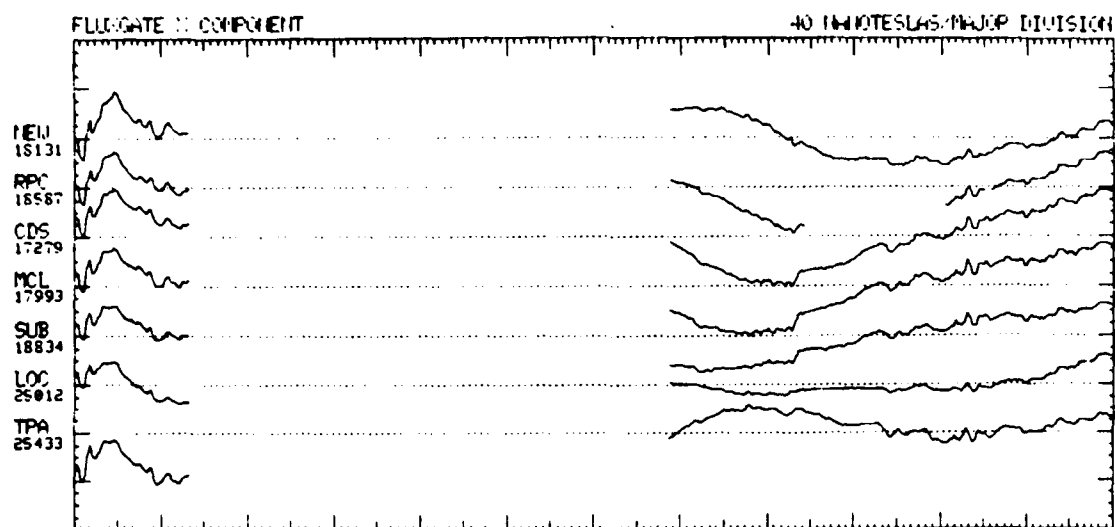


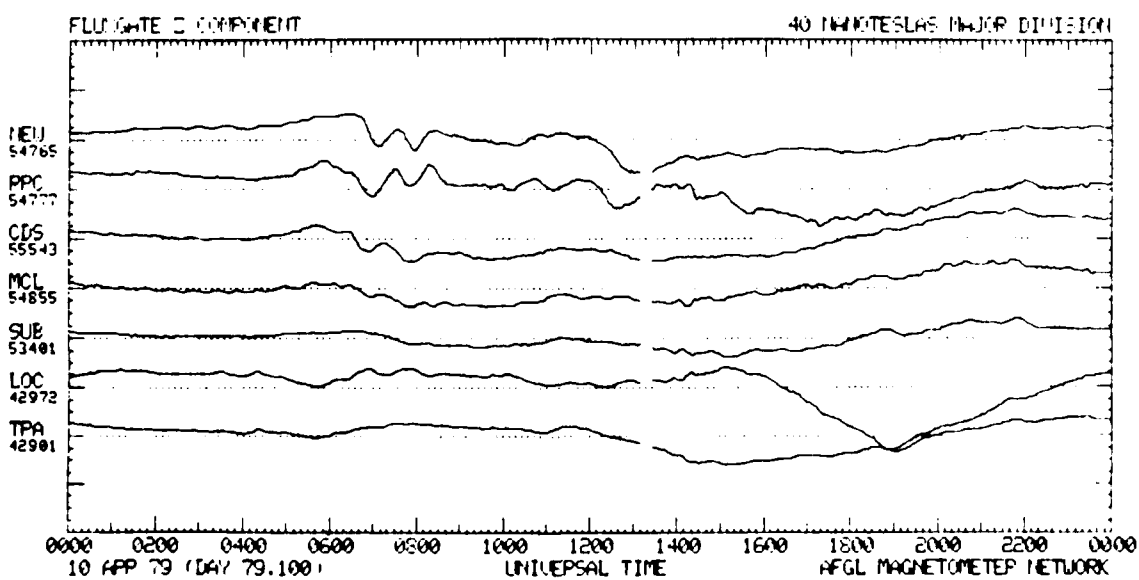
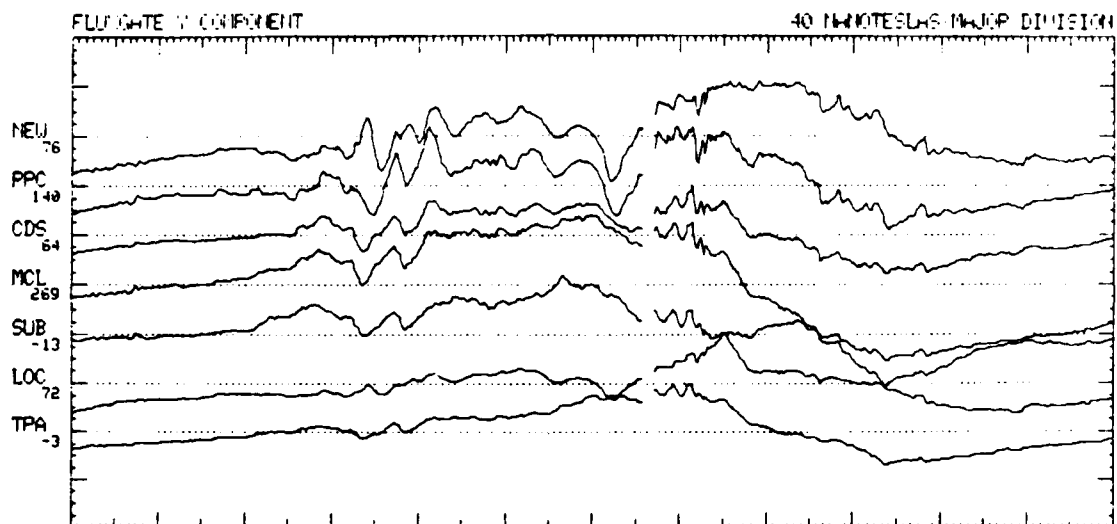
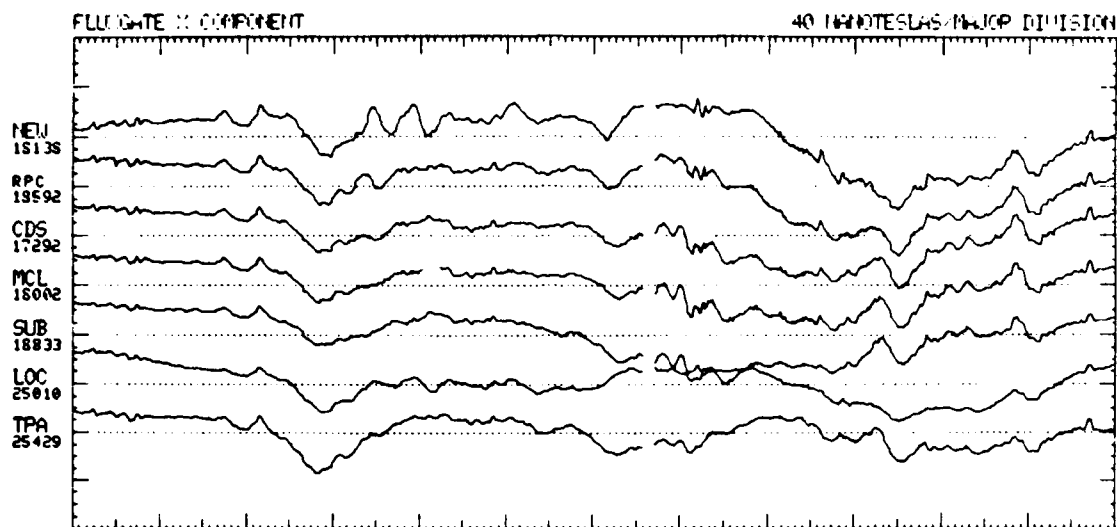


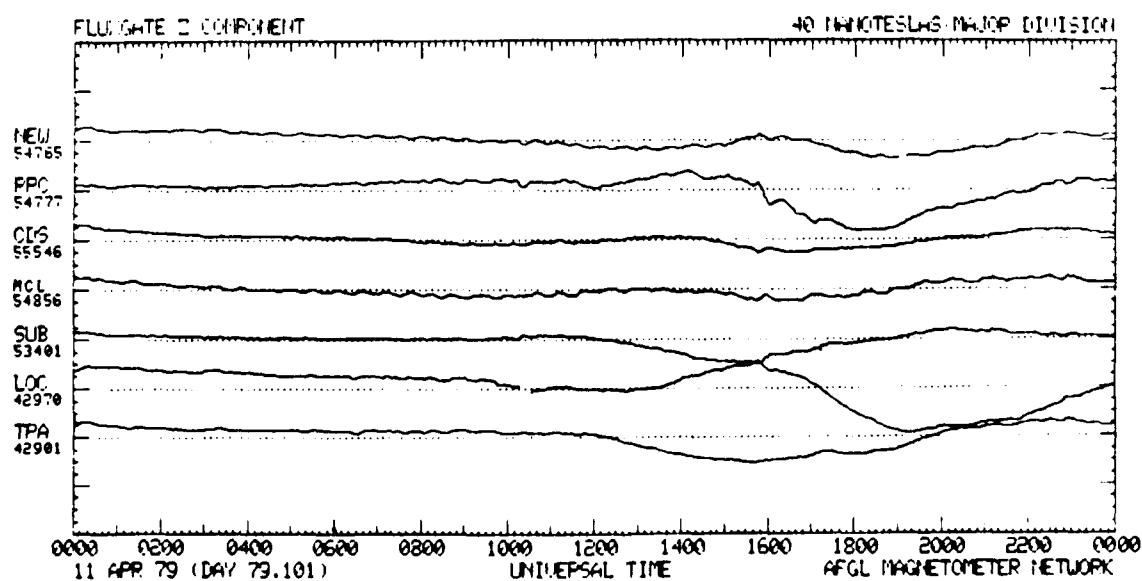
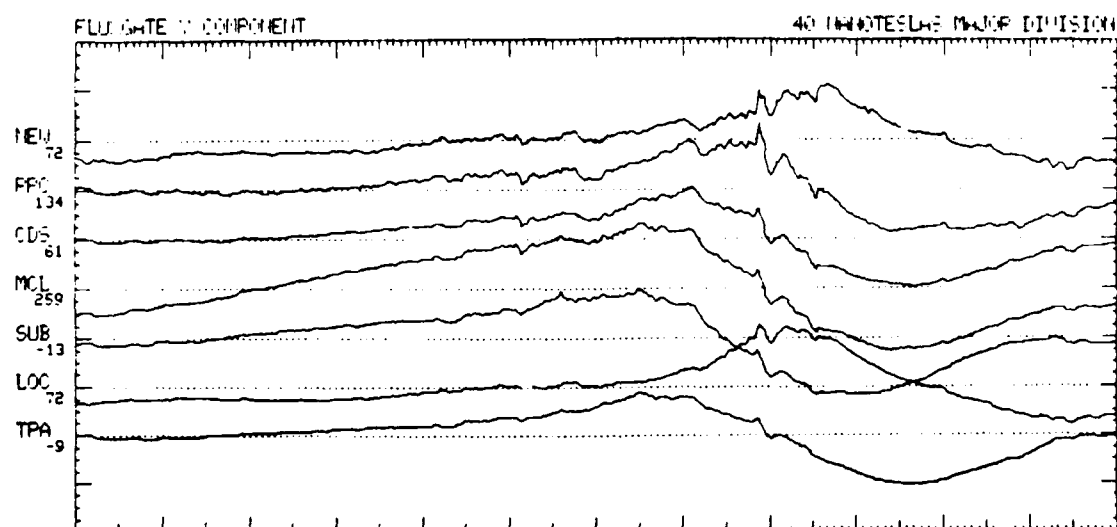
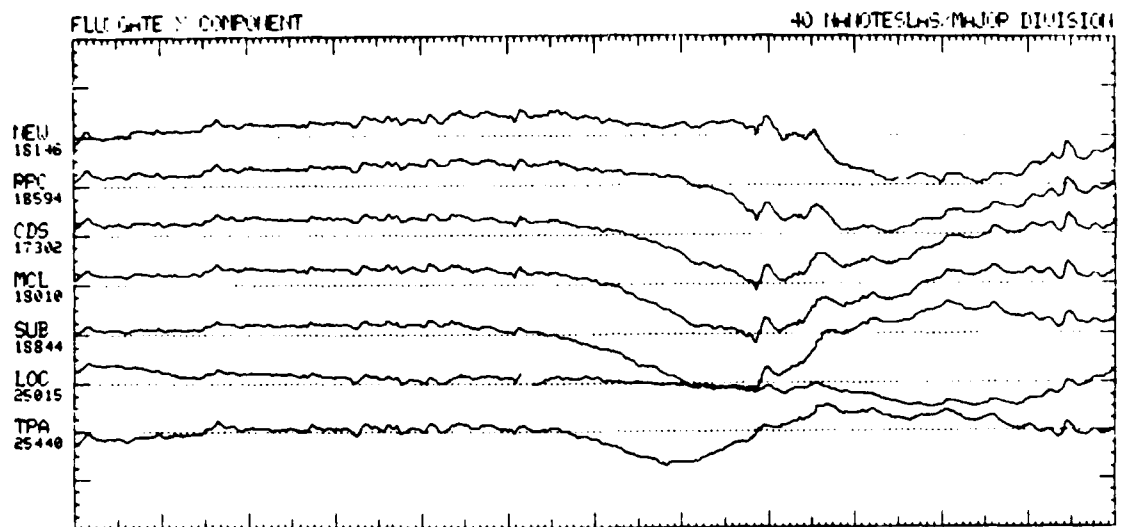


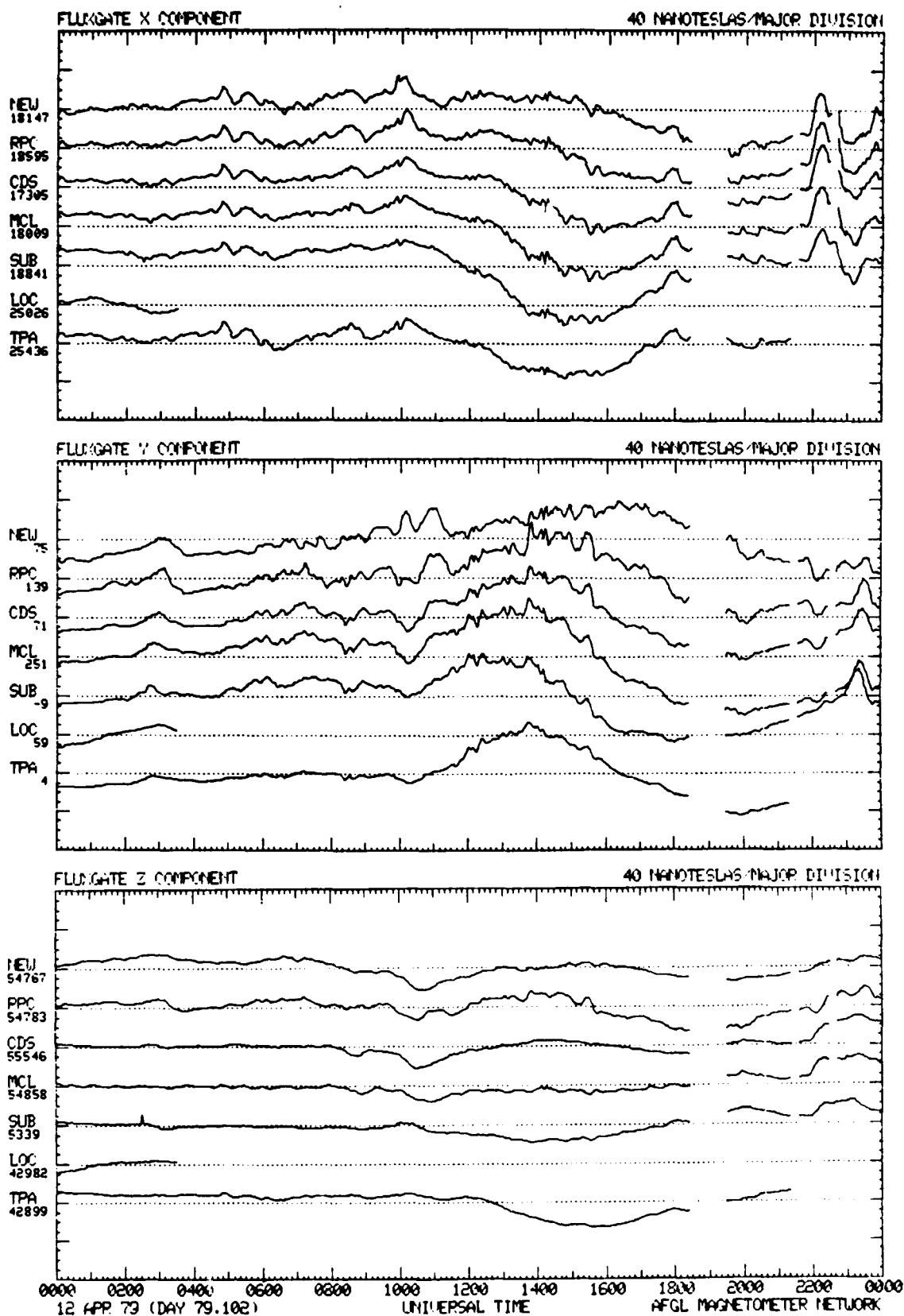


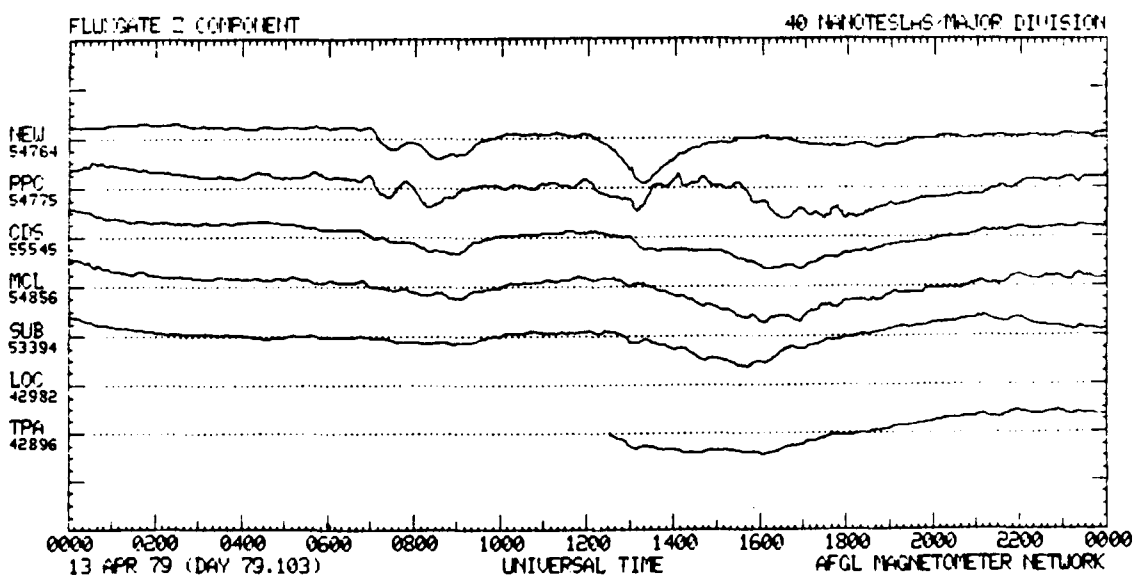
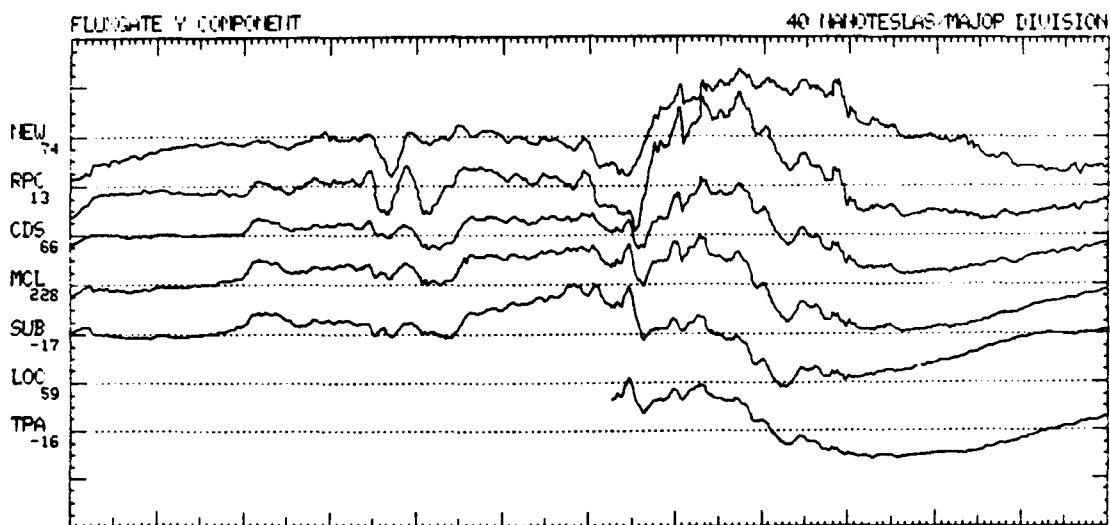
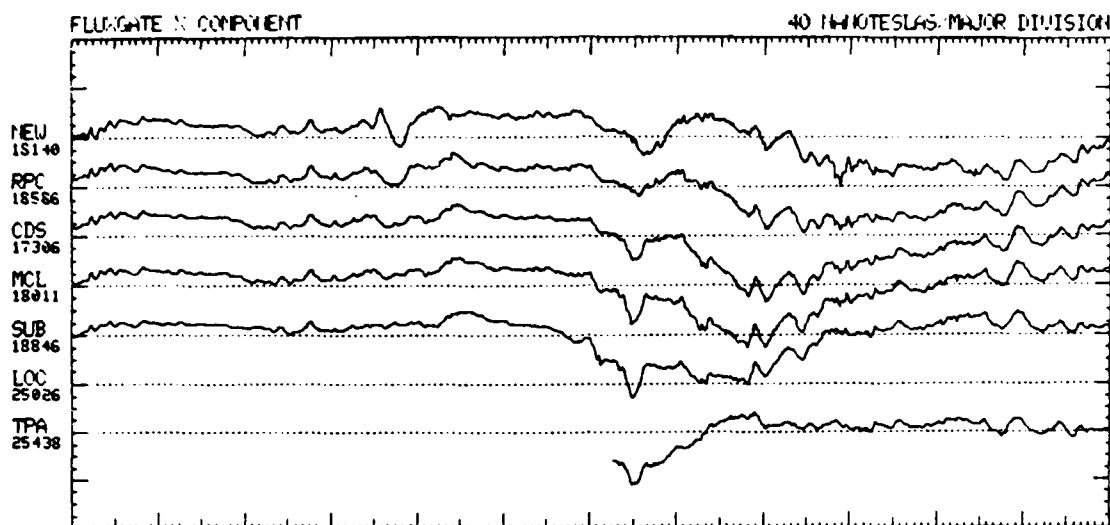


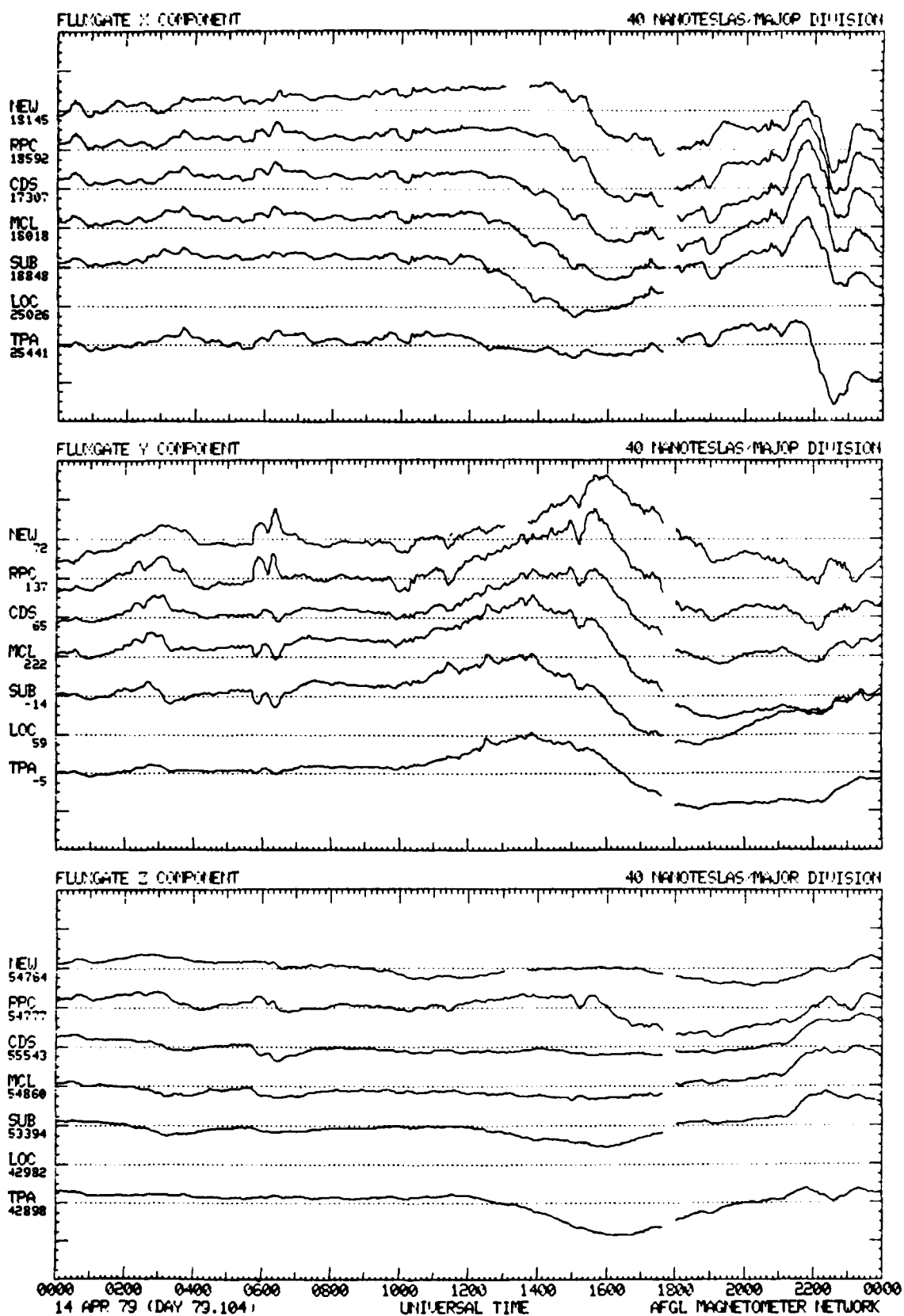


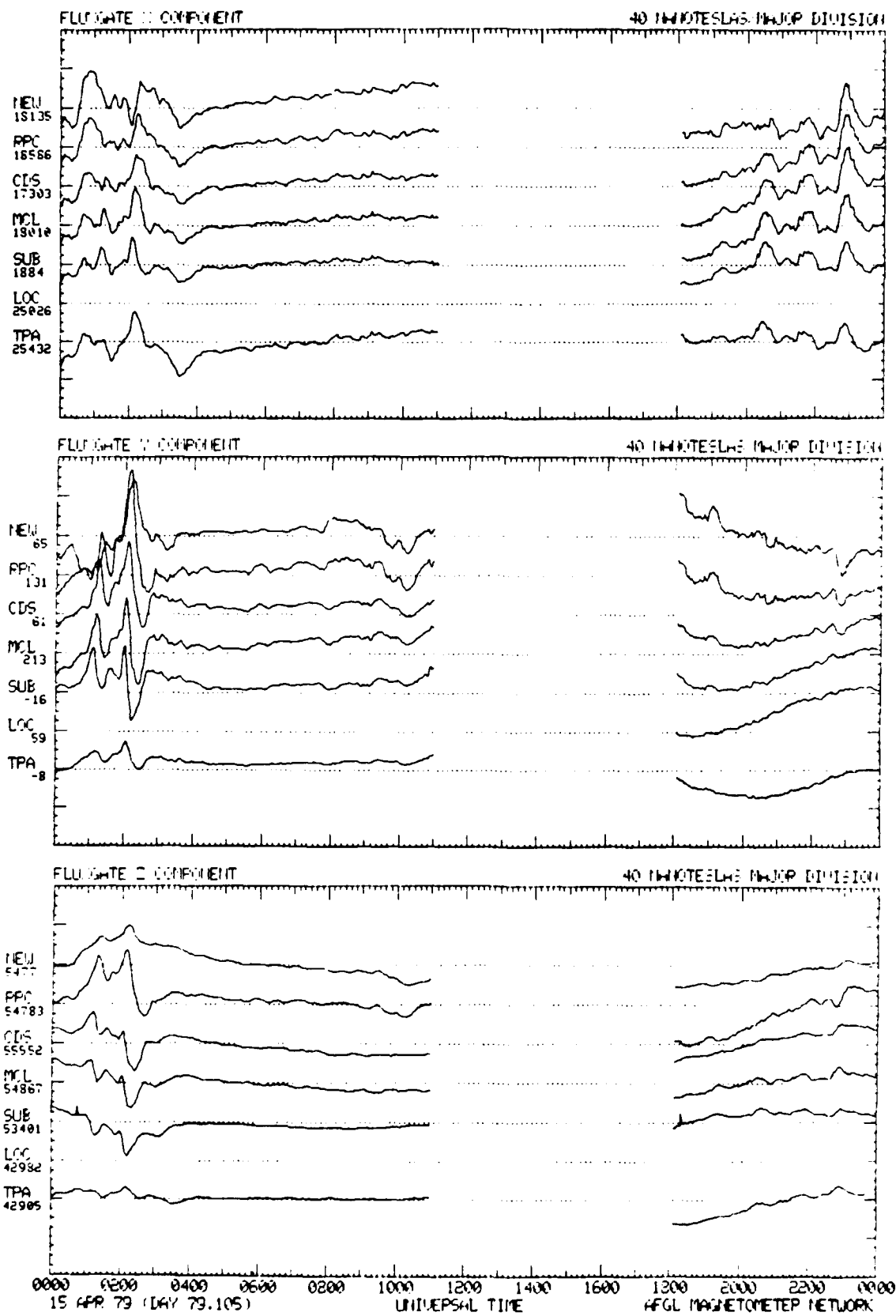


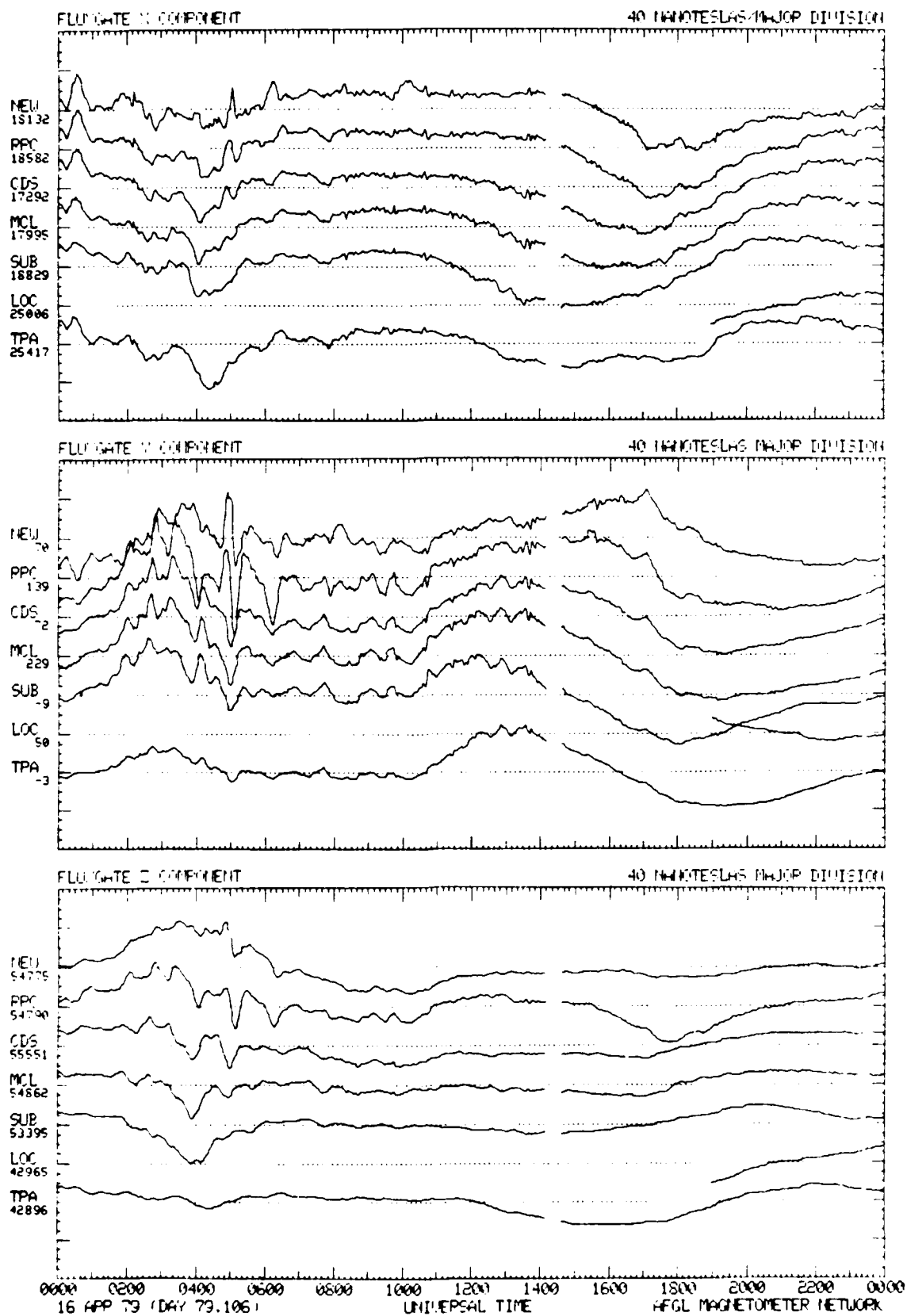


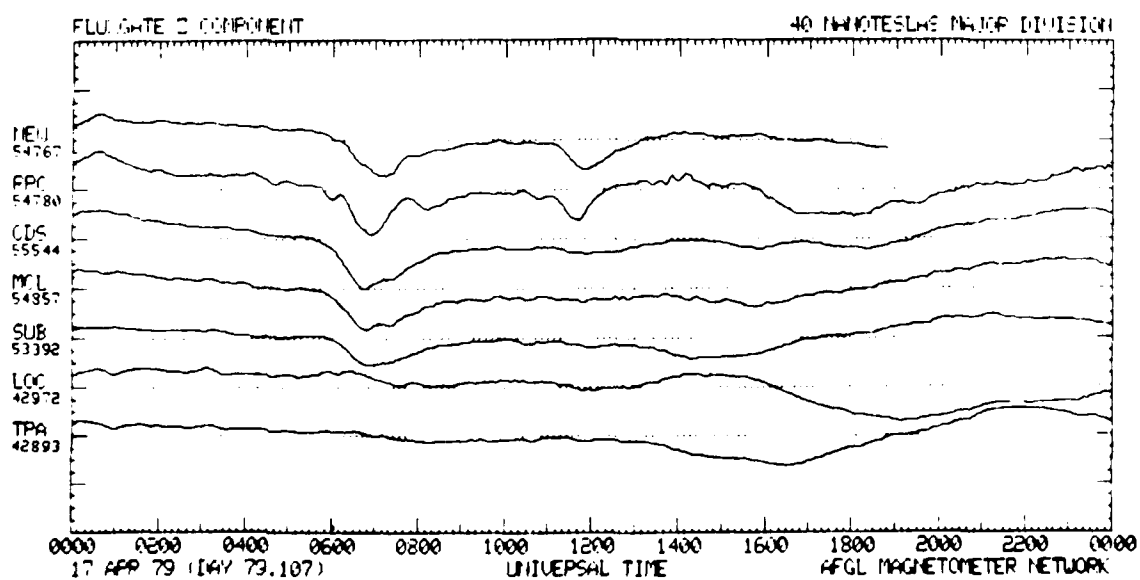
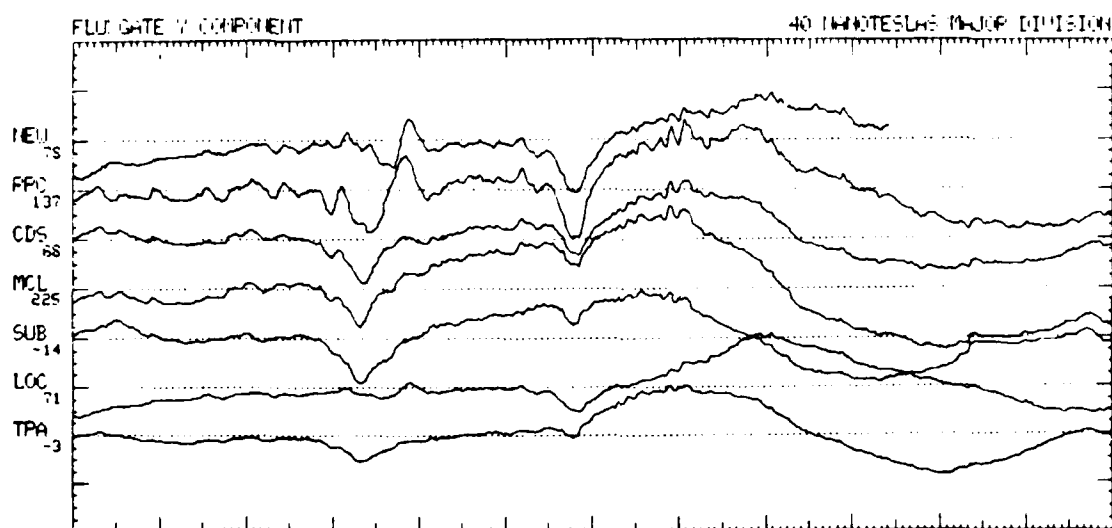
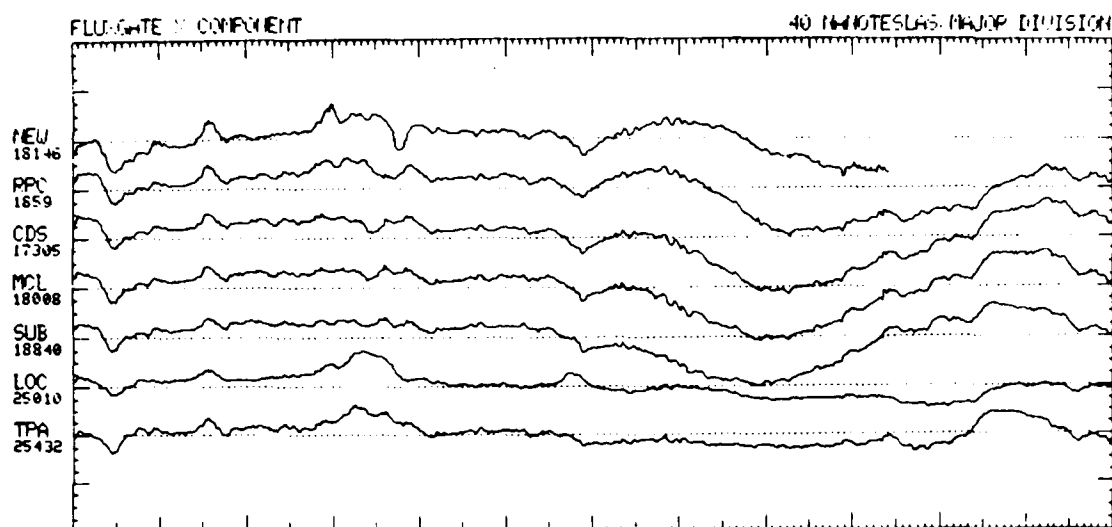








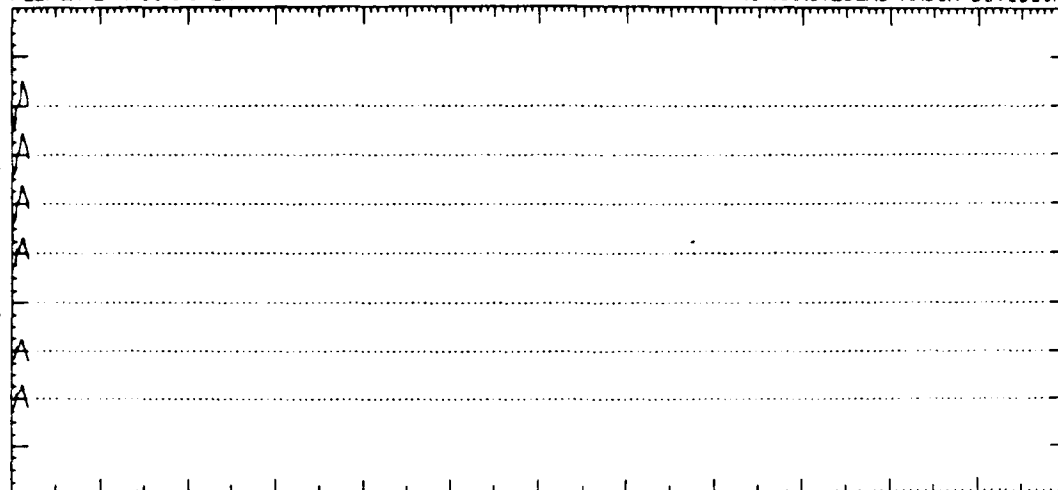




FLUXGATE X COMPONENT

40 NANOTESLAS/MAJOR DIVISION

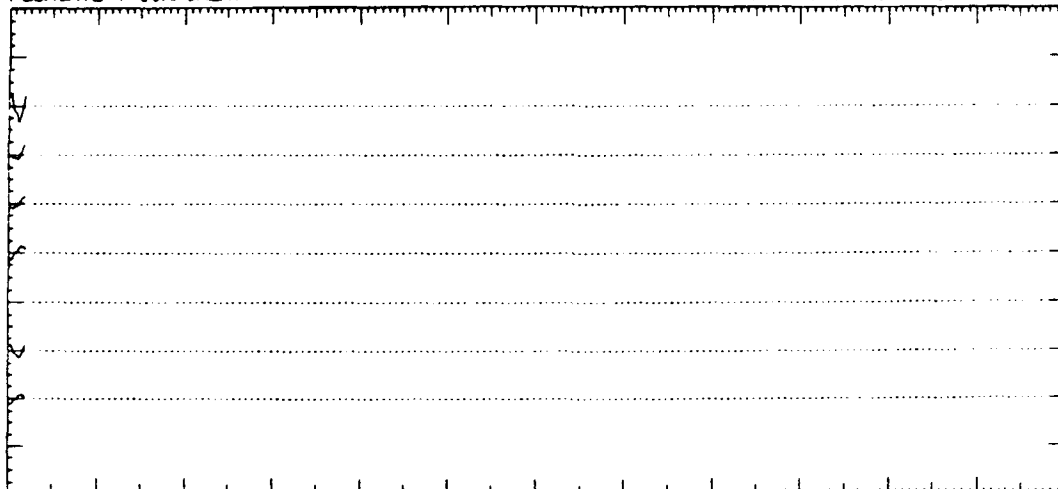
NEW
18226
RPC
18666
CDS
17217
MCL
18086
SUB
18695
LOC
25032
TPA
25444



FLUXGATE Y COMPONENT

40 NANOTESLAS/MAJOR DIVISION

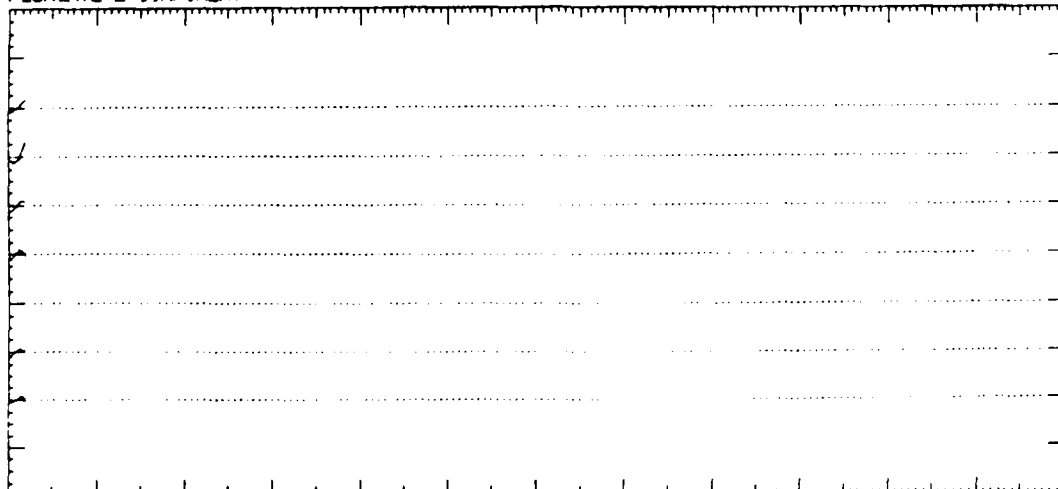
NEW
23
RPC
-48
CDS
22
MCL
4
SUB
139
LOC
-12
TPA
-50



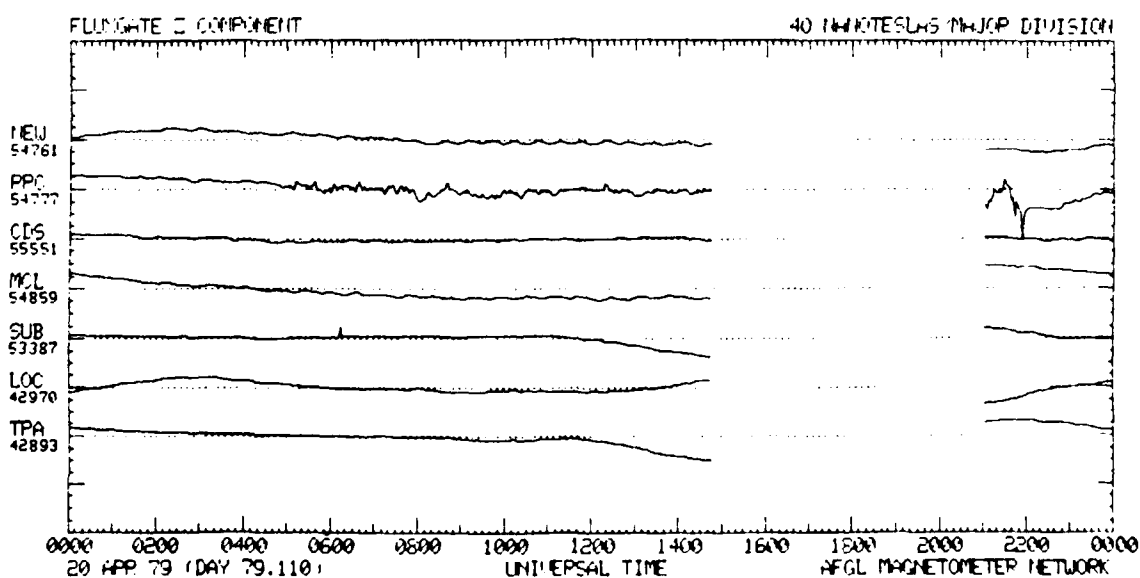
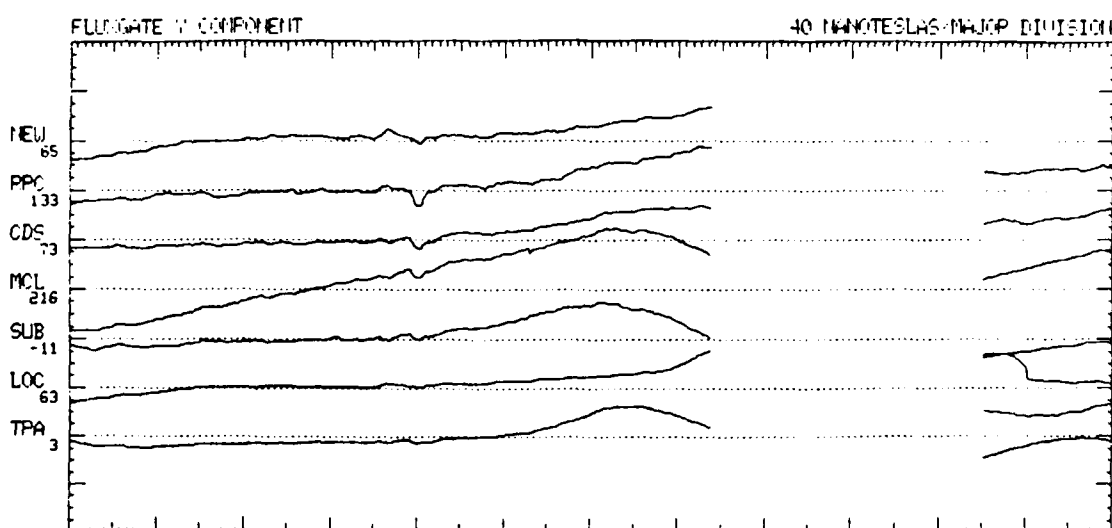
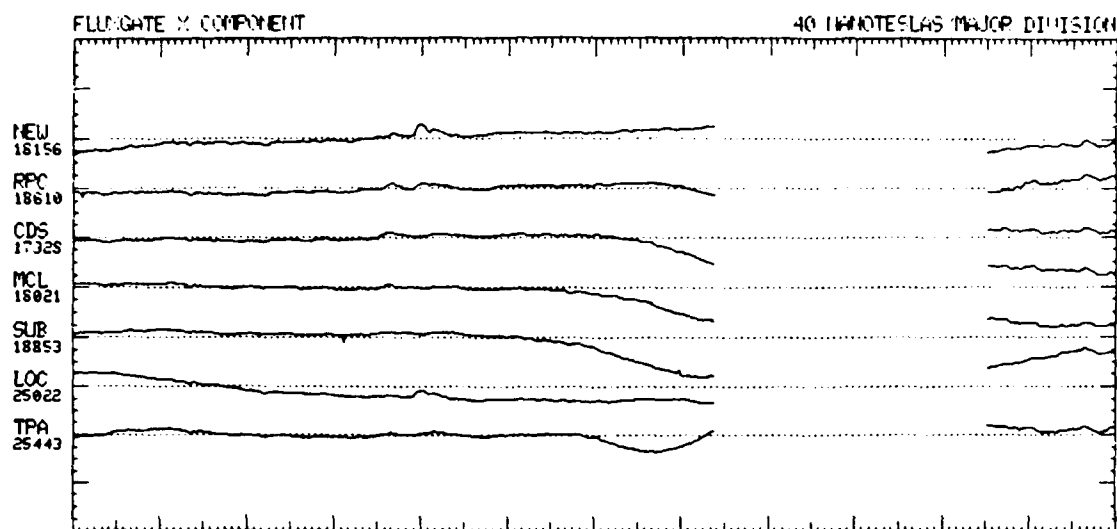
FLUXGATE Z COMPONENT

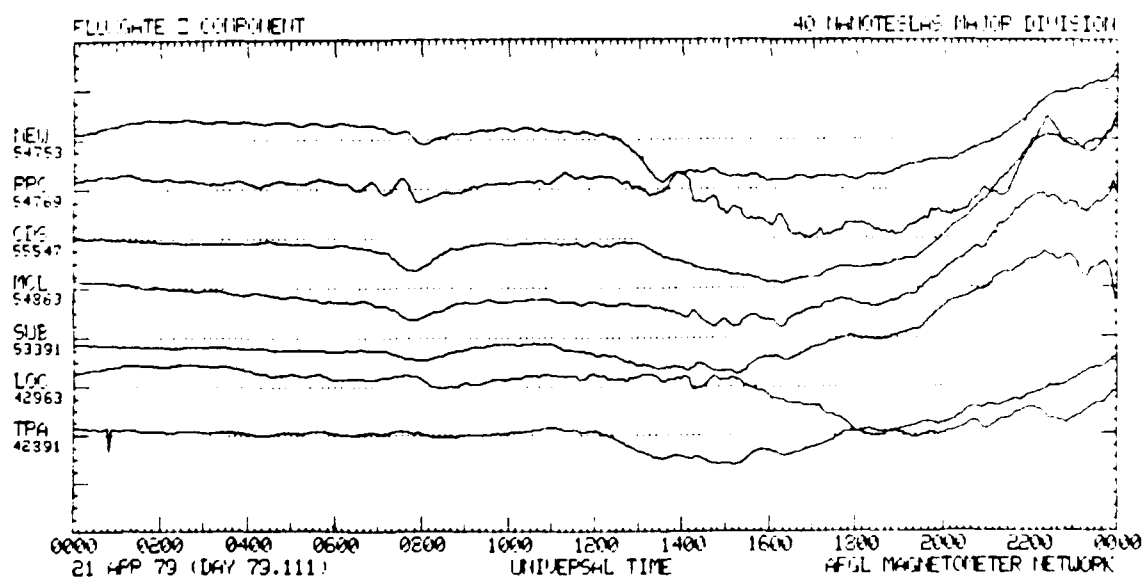
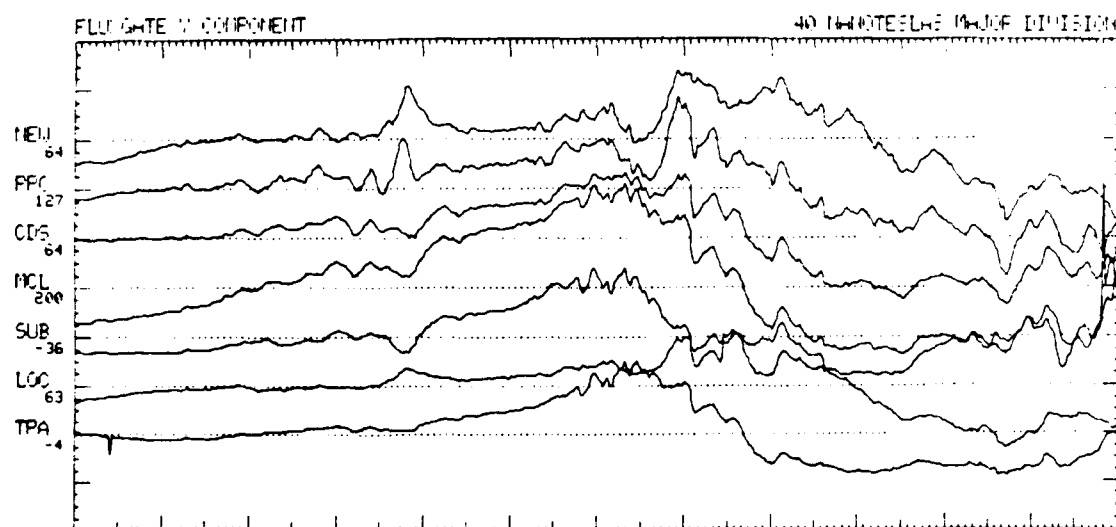
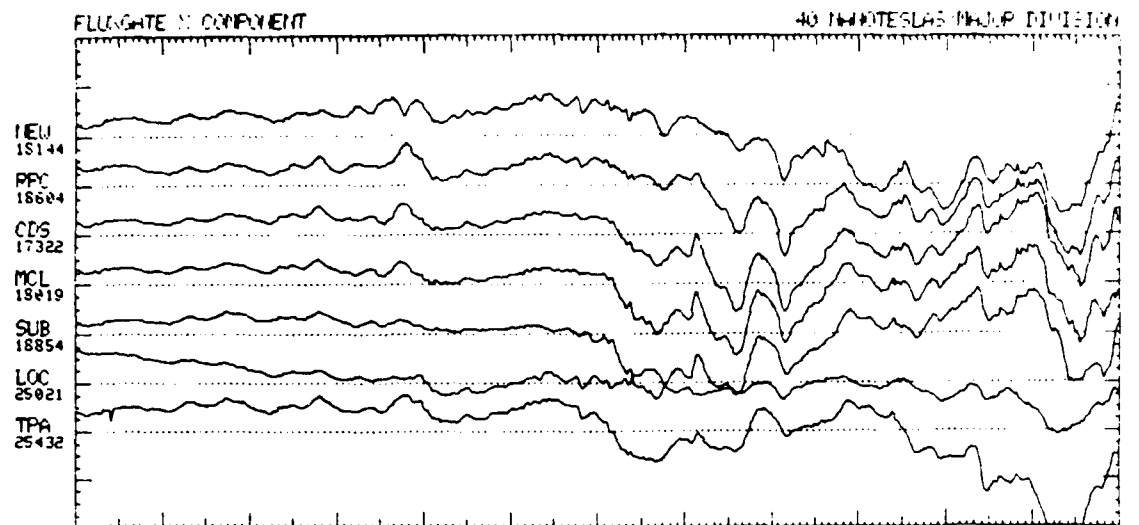
40 NANOTESLAS/MAJOR DIVISION

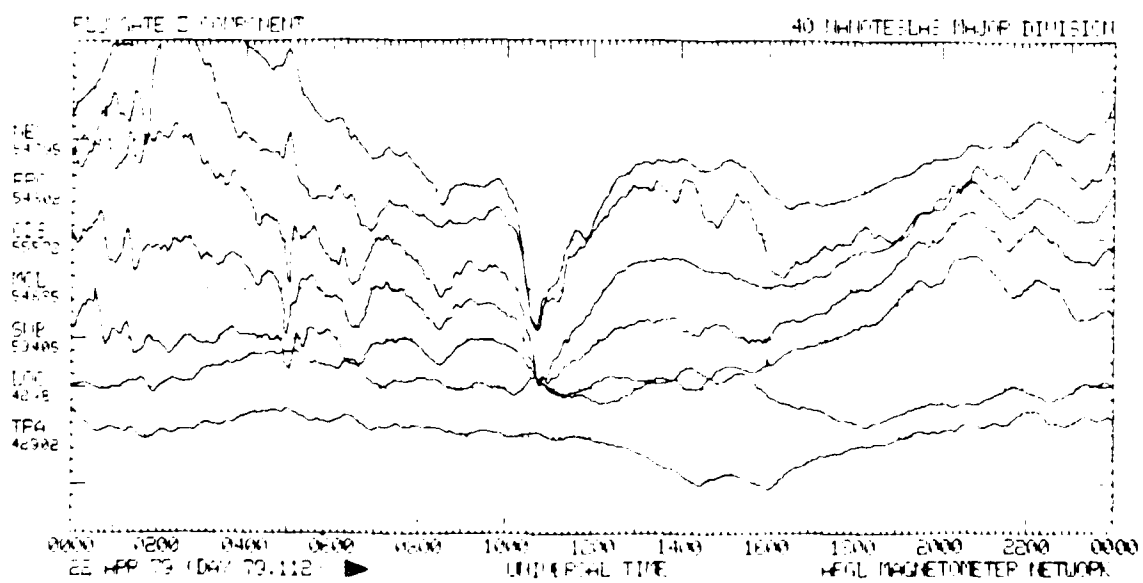
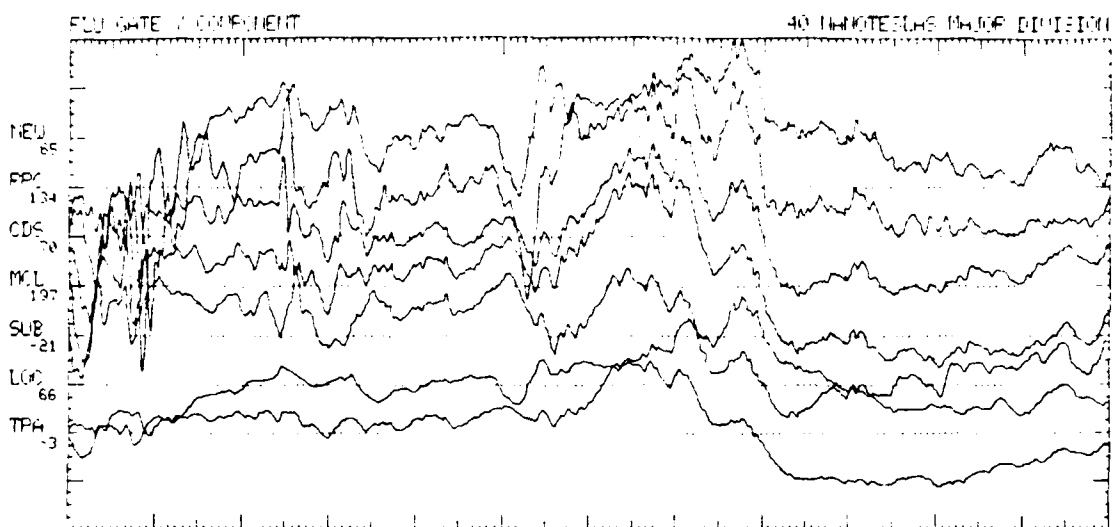
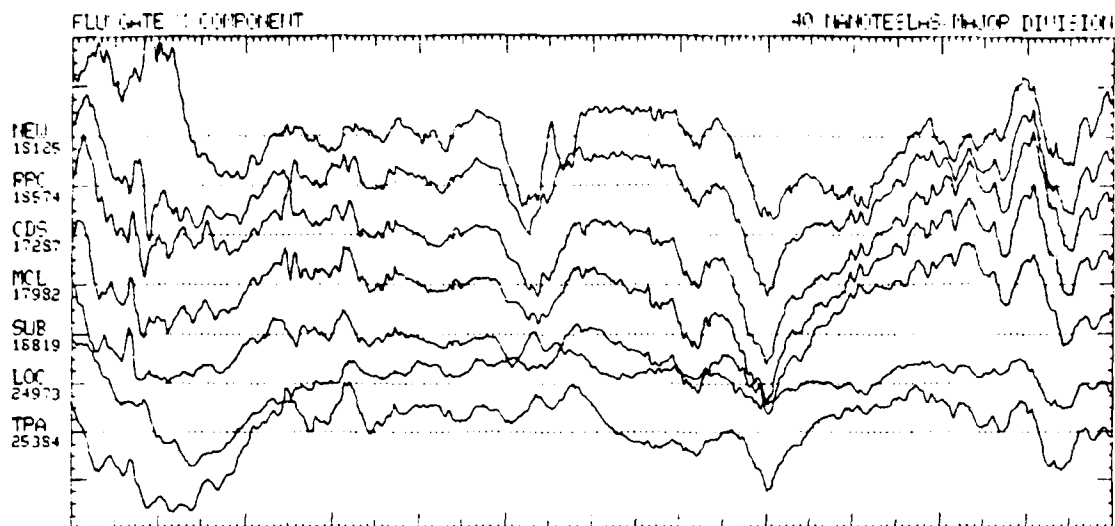
NEW
54517
RPC
54630
CDS
55420
MCL
54689
SUB
53021
LOC
42899
TPA
42741

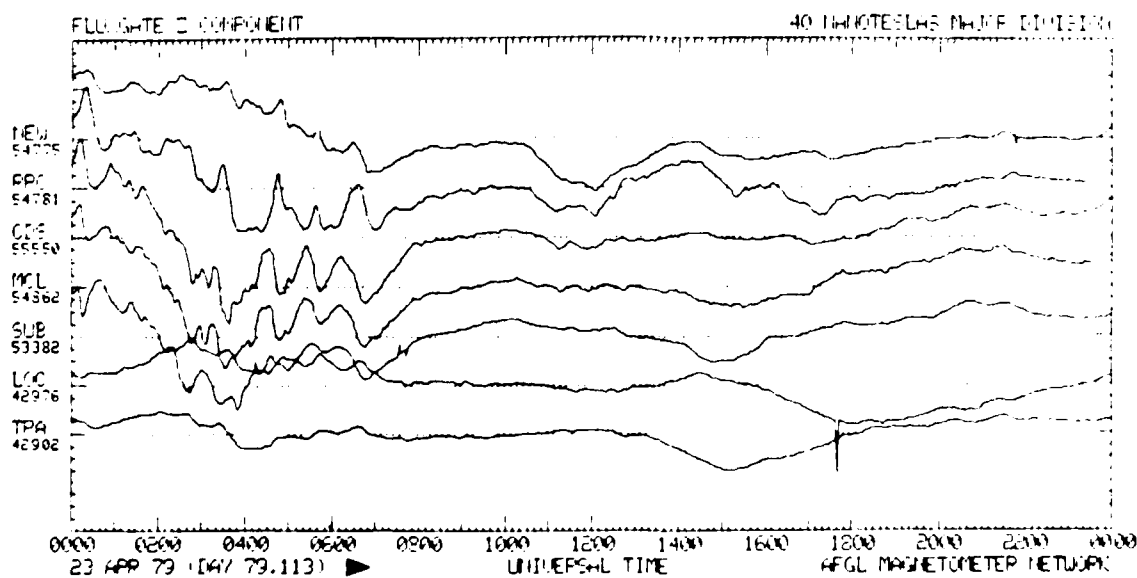
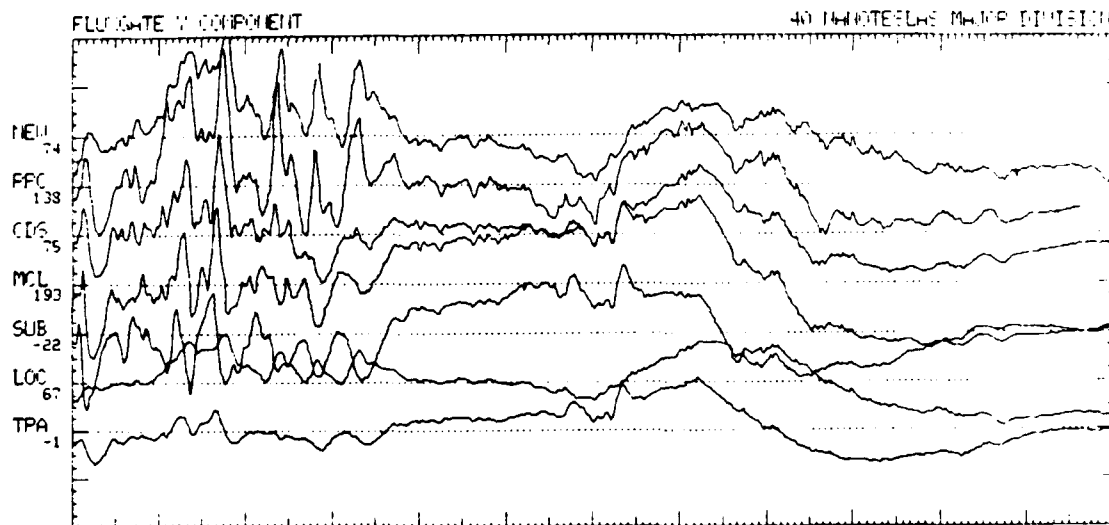
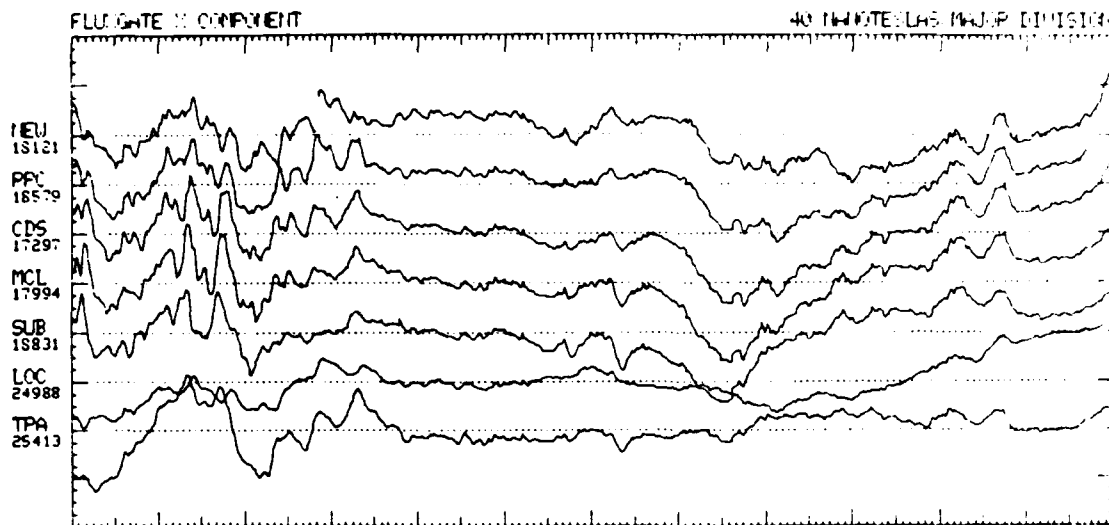


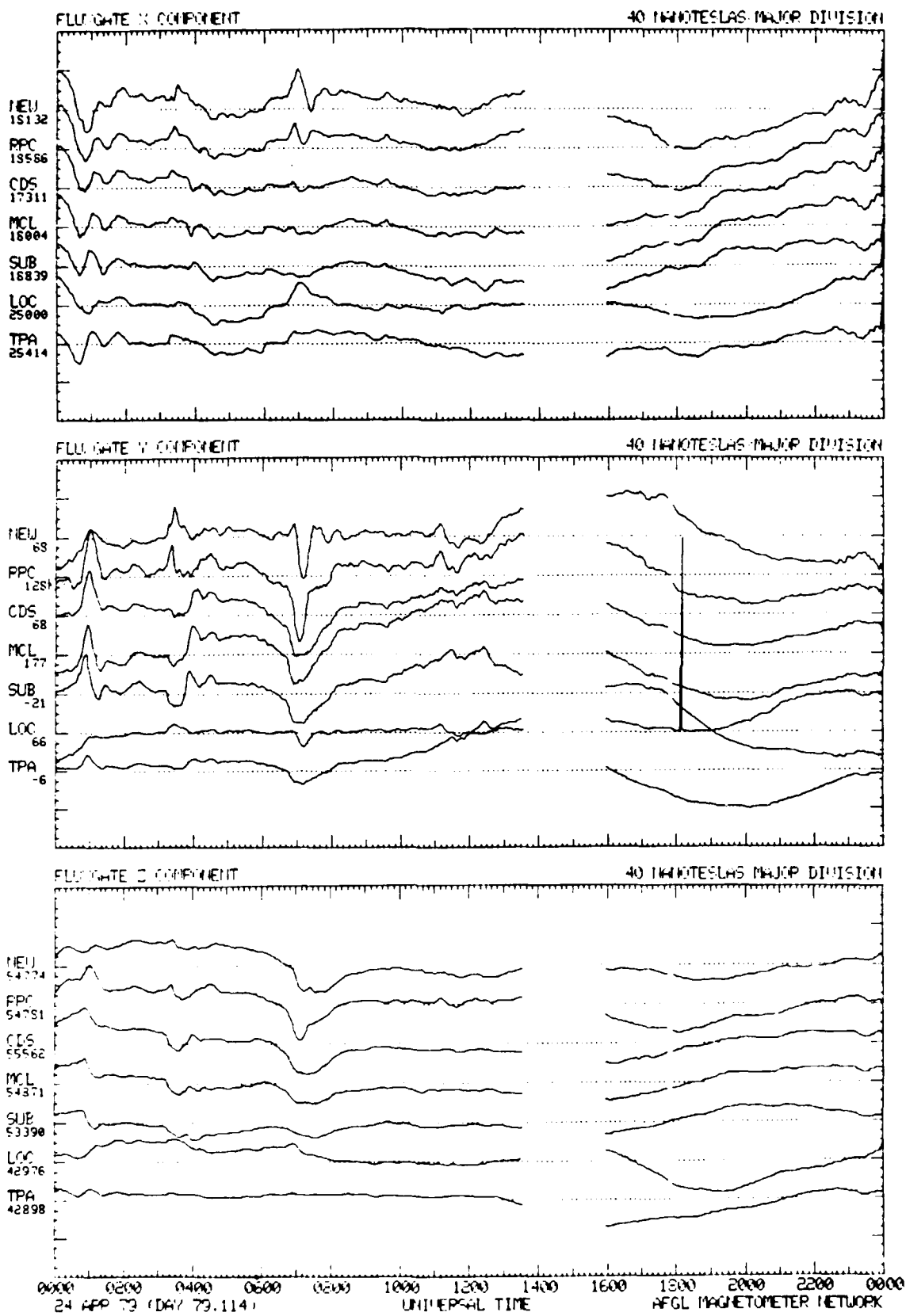
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19 APR 81 (DAY 81.109) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

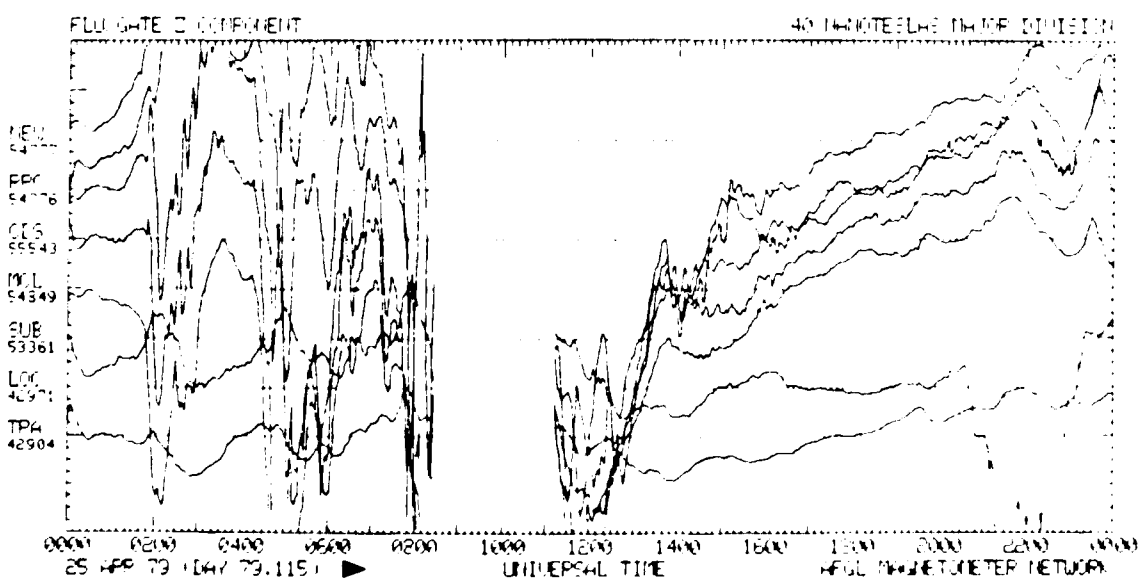
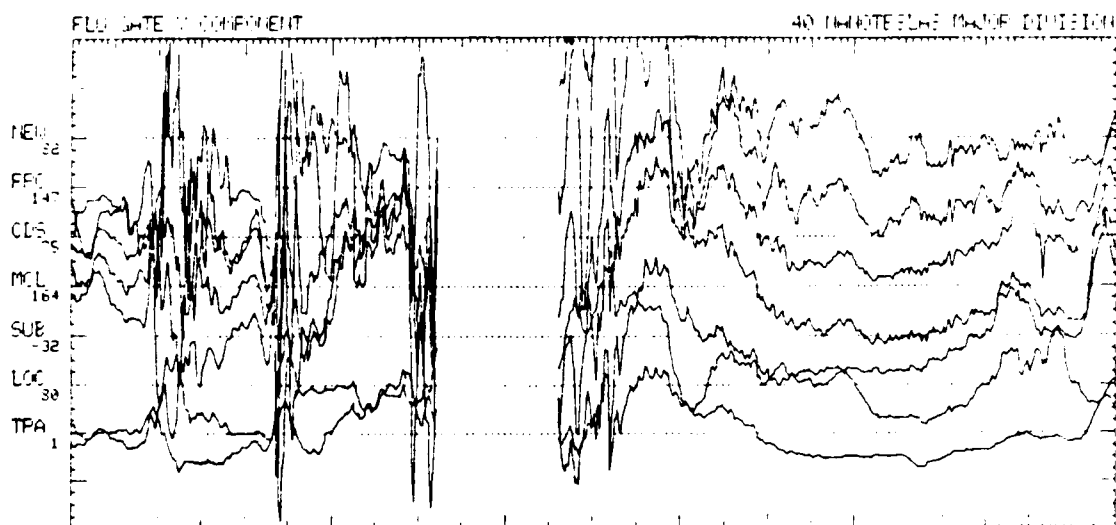
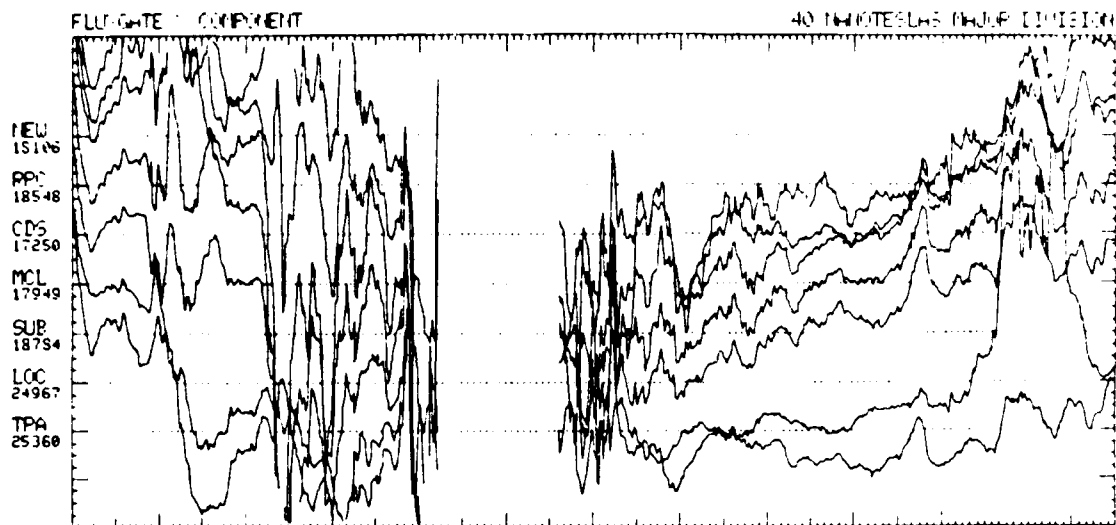


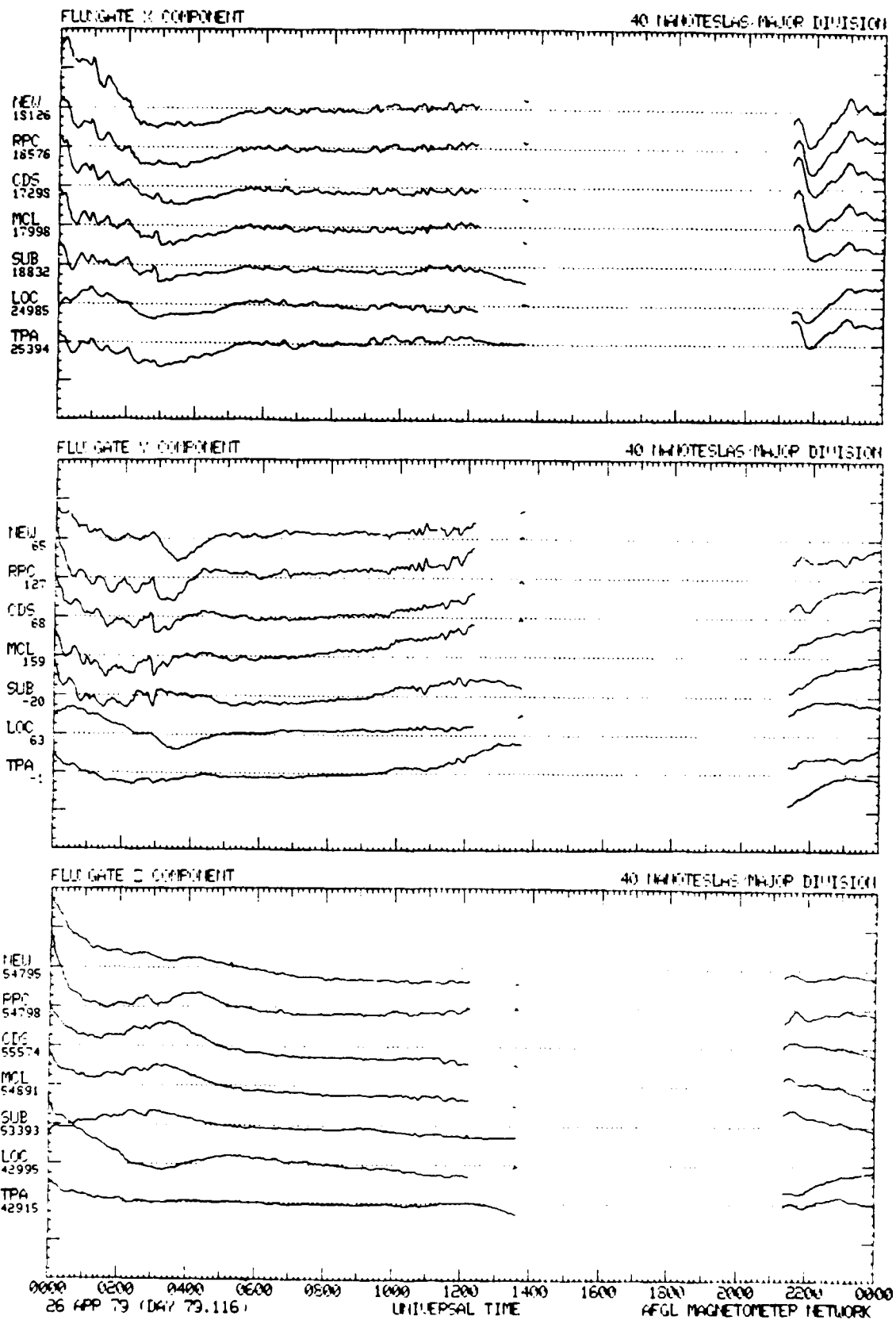


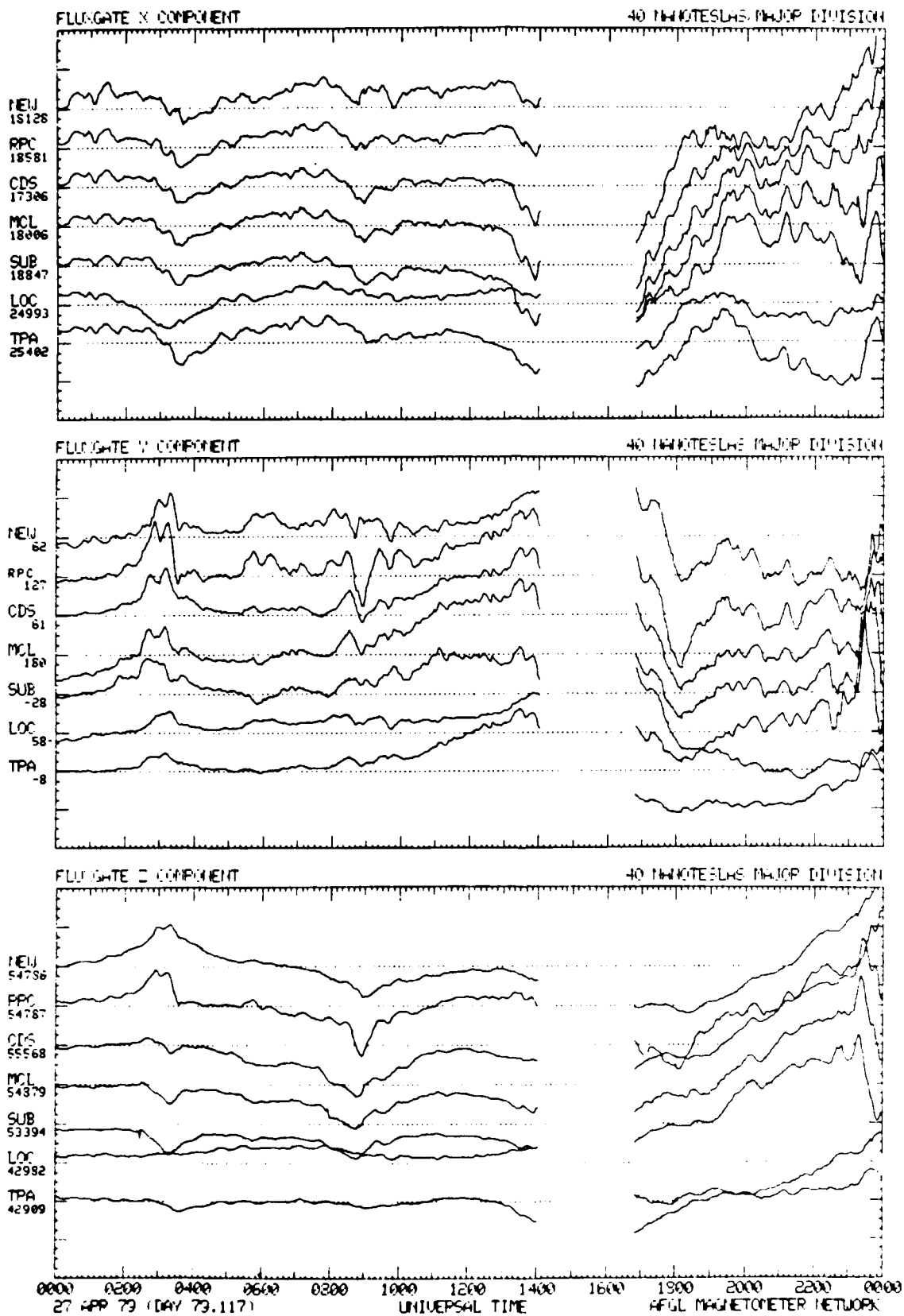


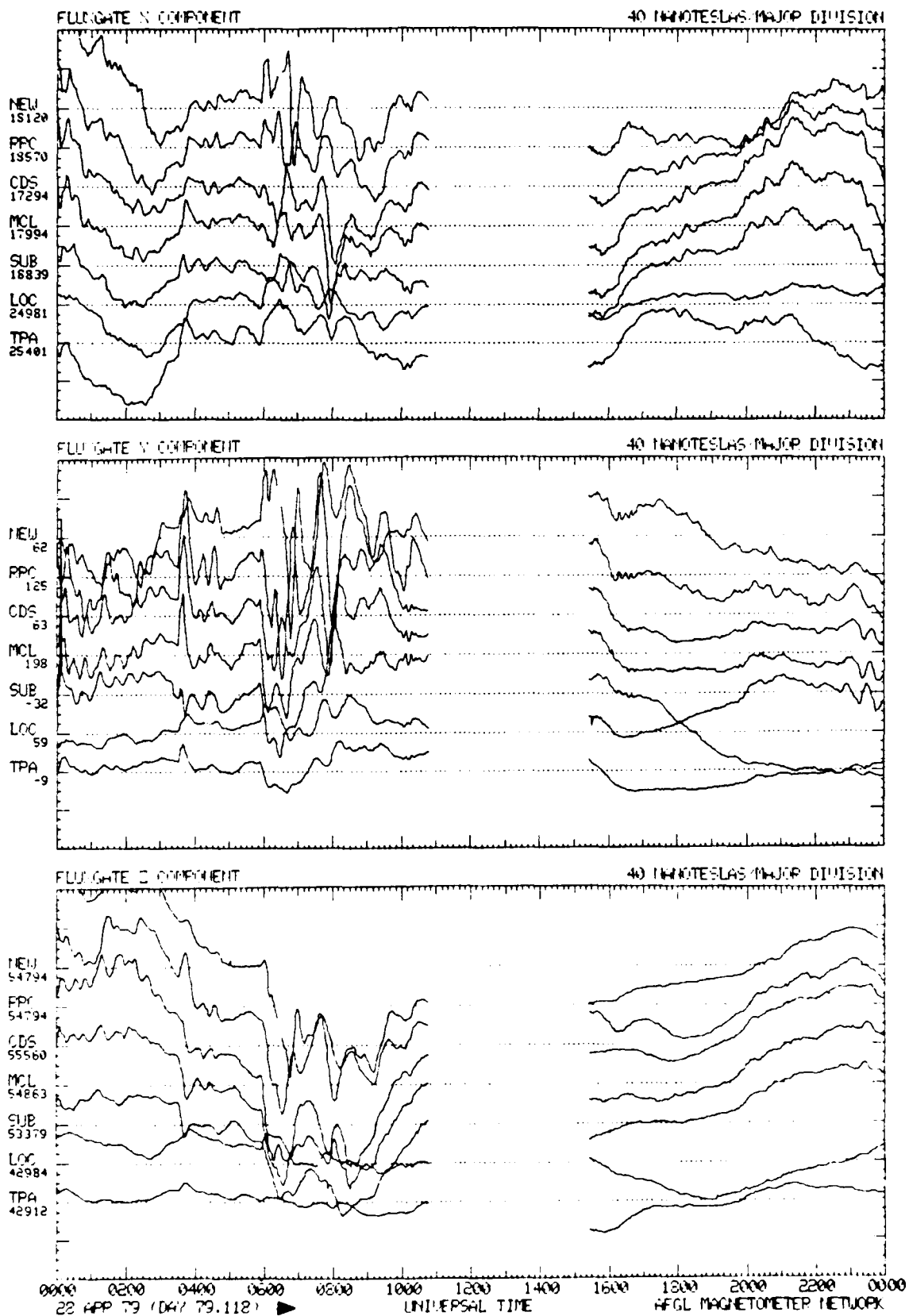


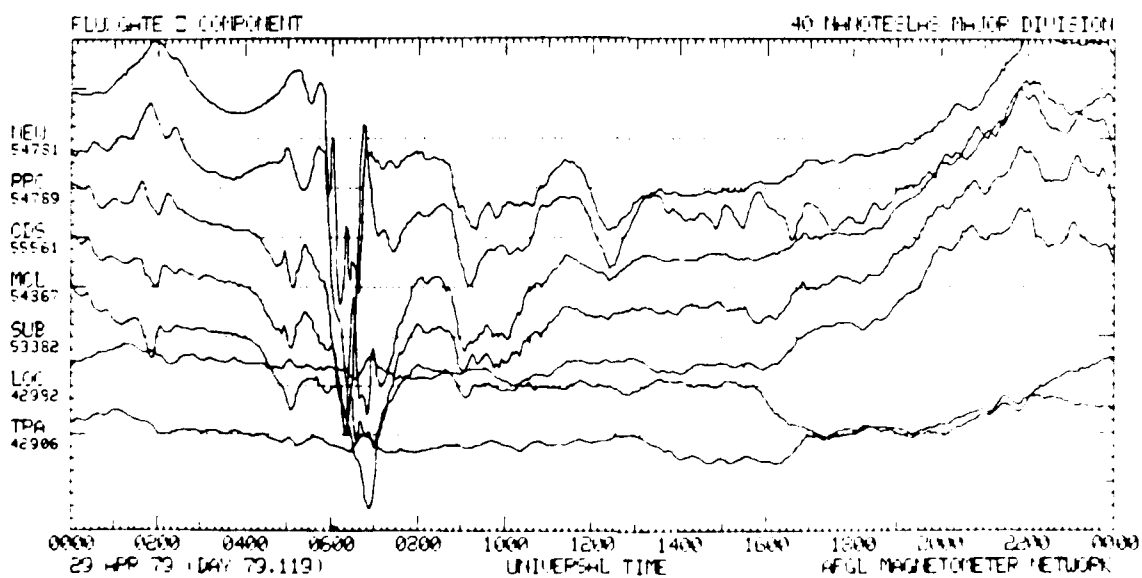
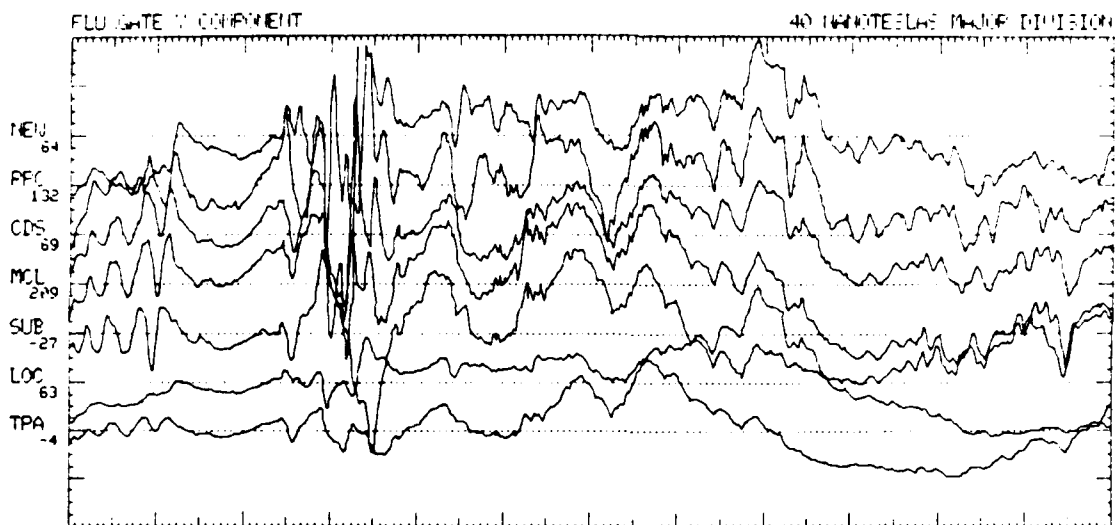
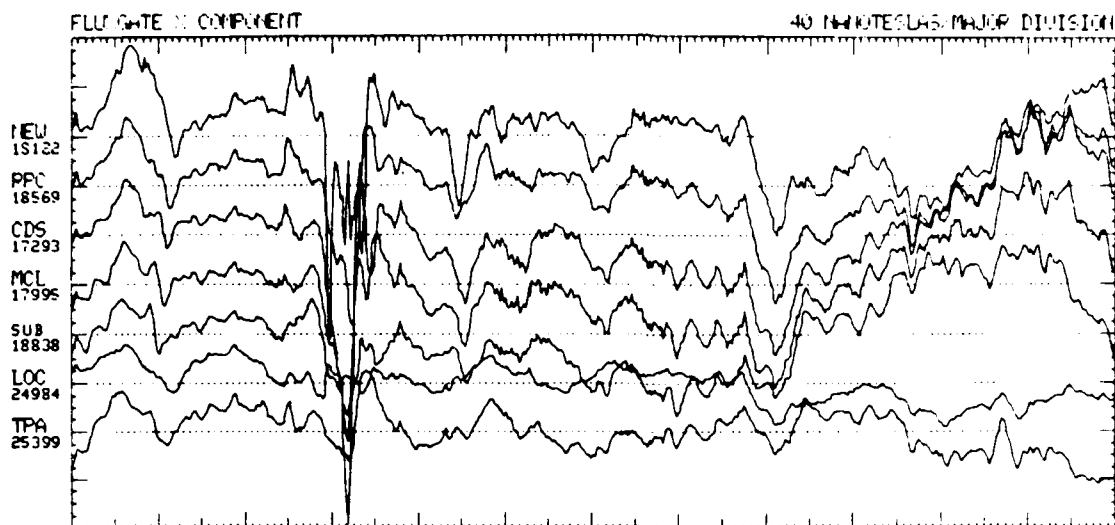


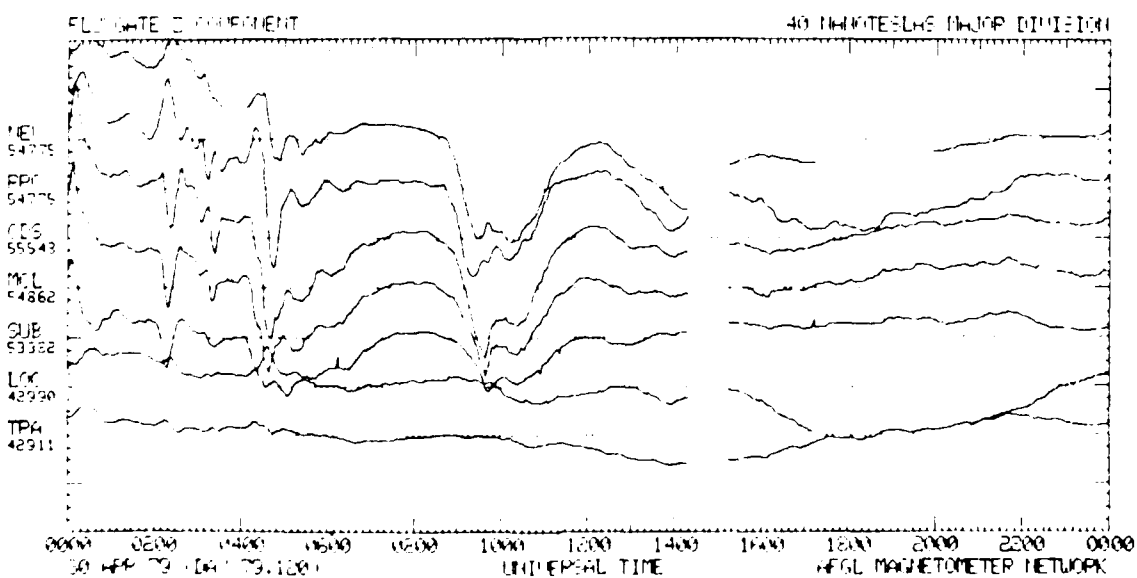
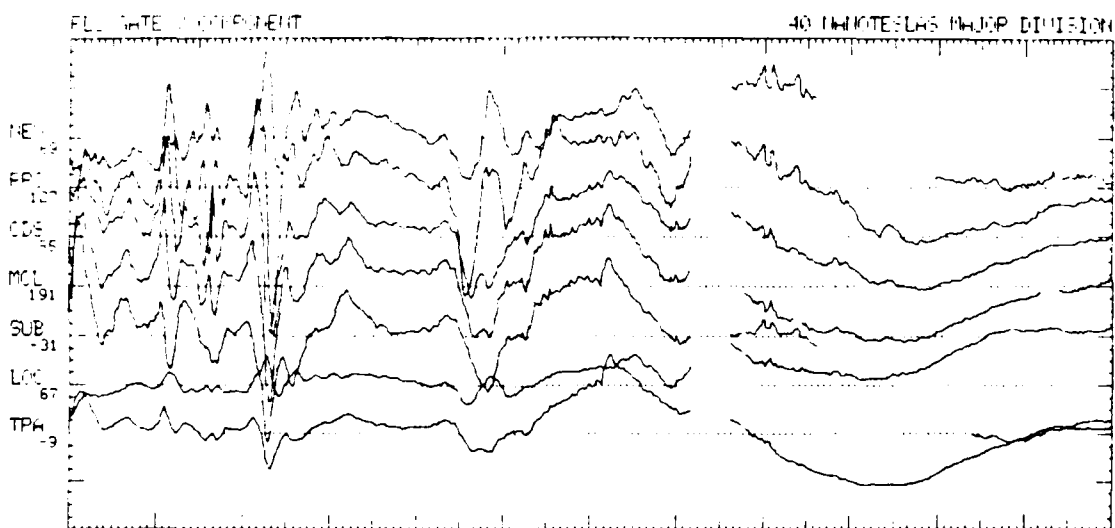
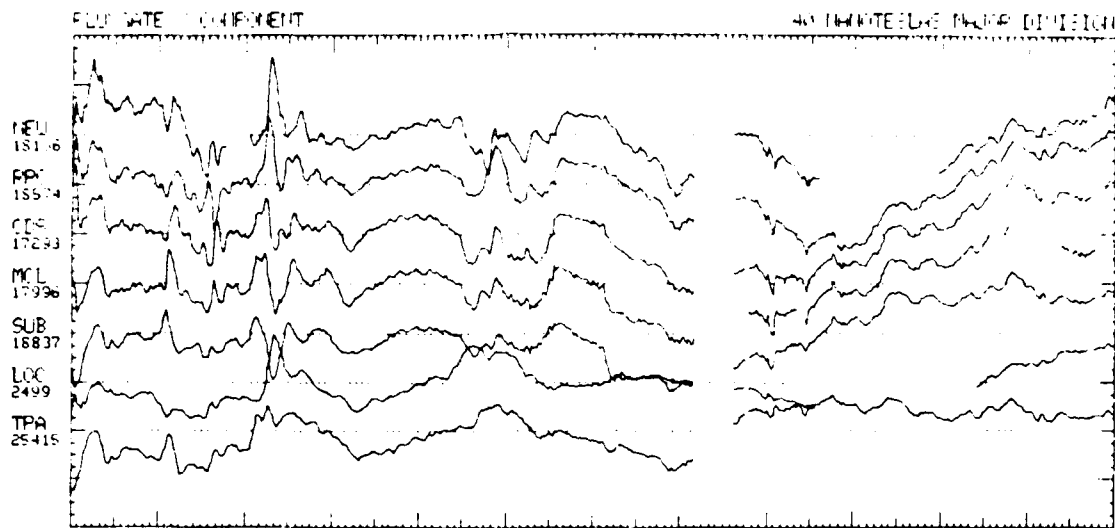


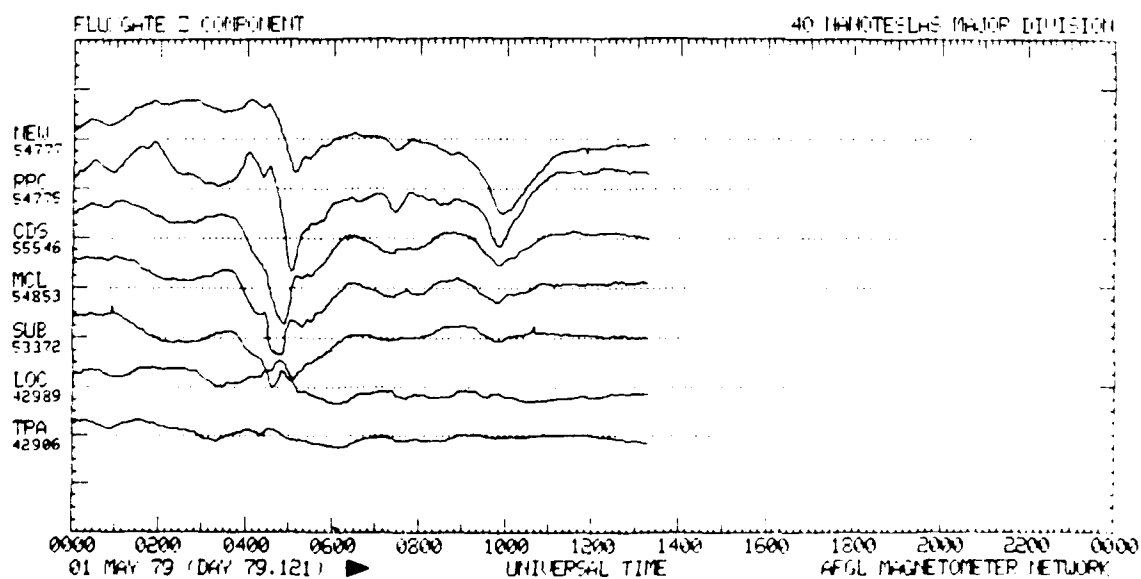
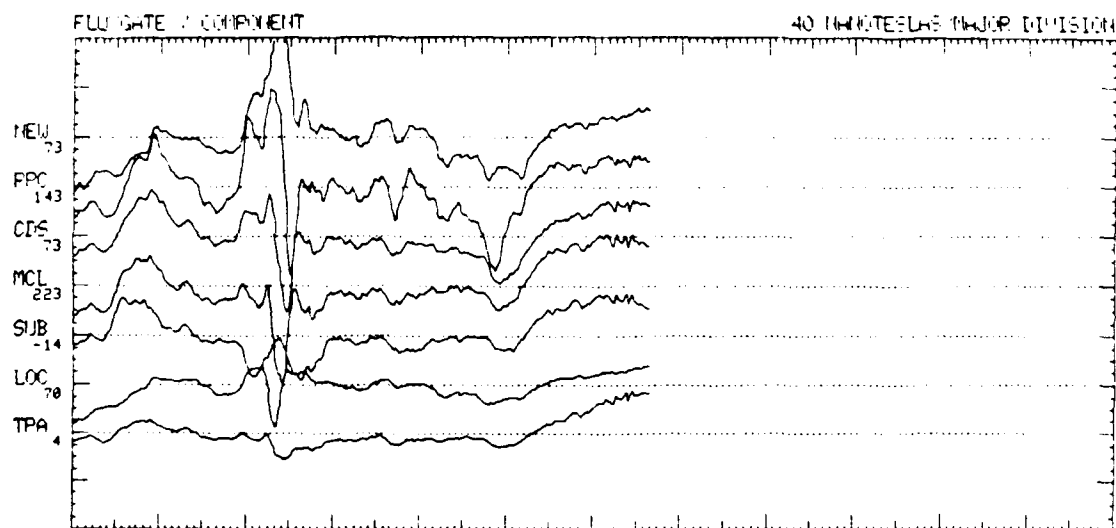
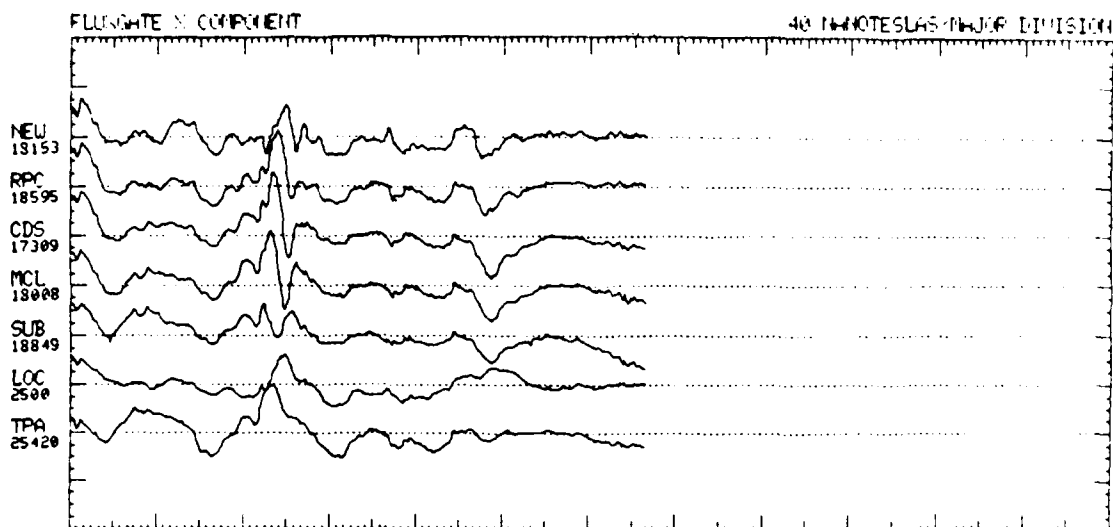








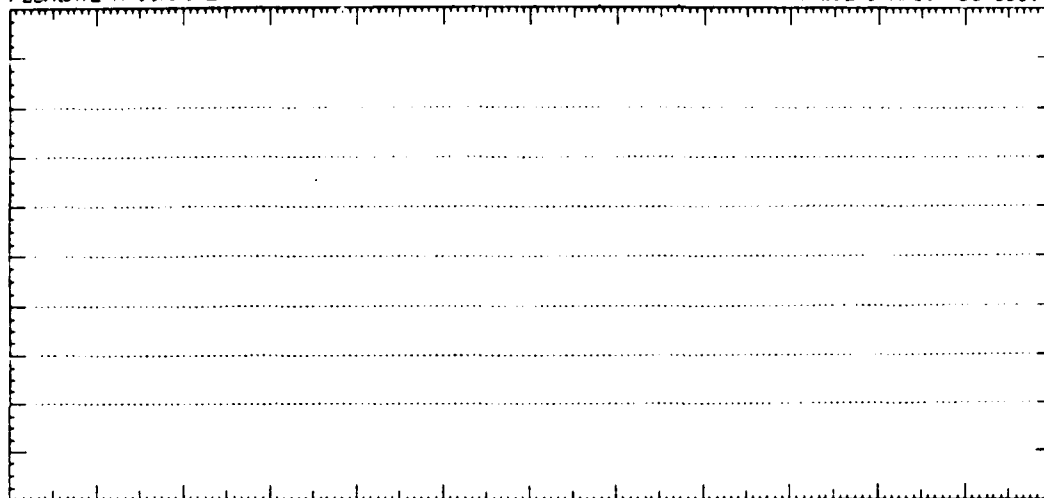




FLUXGATE X COMPONENT

40 NANOTESLAS MAJOR DIVISION

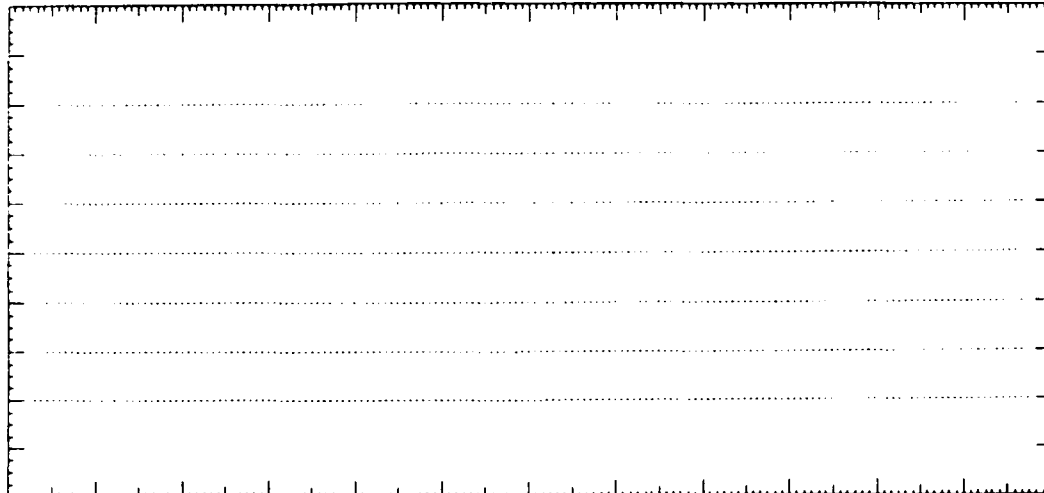
NEW
18153
RPC
18595
CDS
17309
MCL
18008
SUB
18849
LOC
25004
TPA
25420



FLUXGATE Y COMPONENT

40 NANOTESLAS MAJOR DIVISION

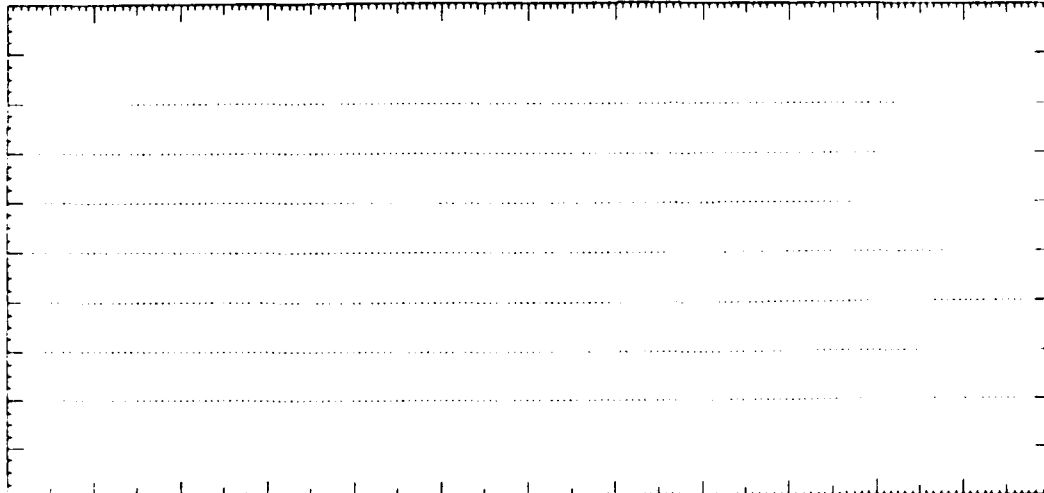
NEW
73
RPC
143
CDS
73
MCL
223
SUB
-14
LOC
70
TPA
4



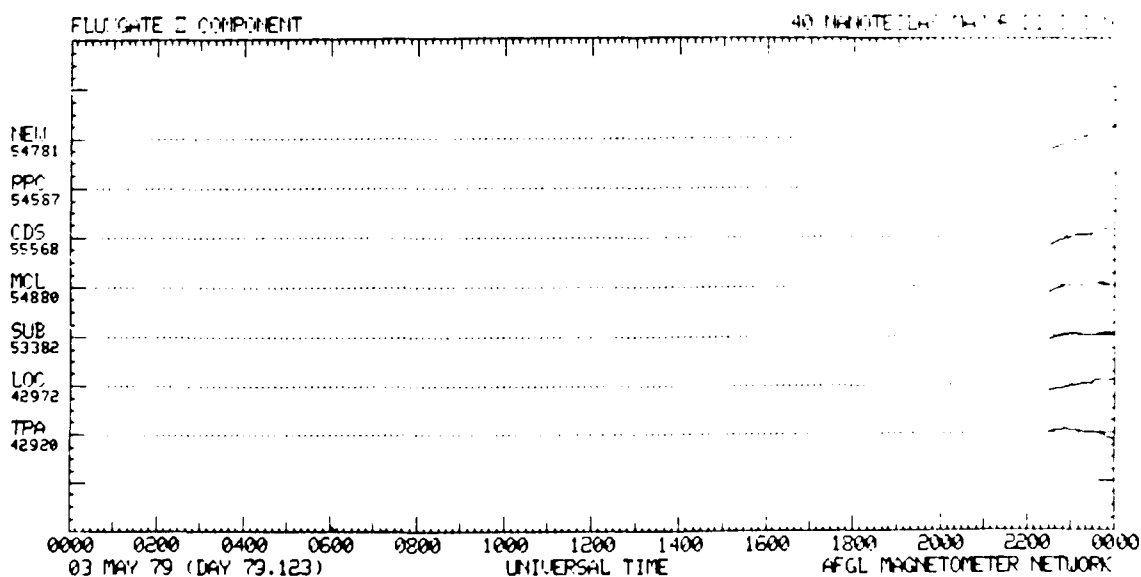
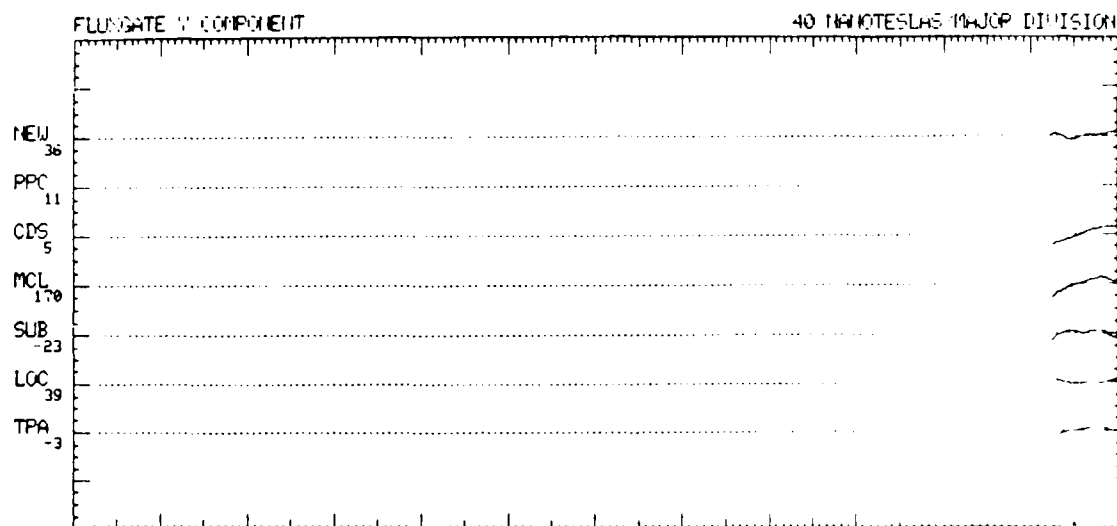
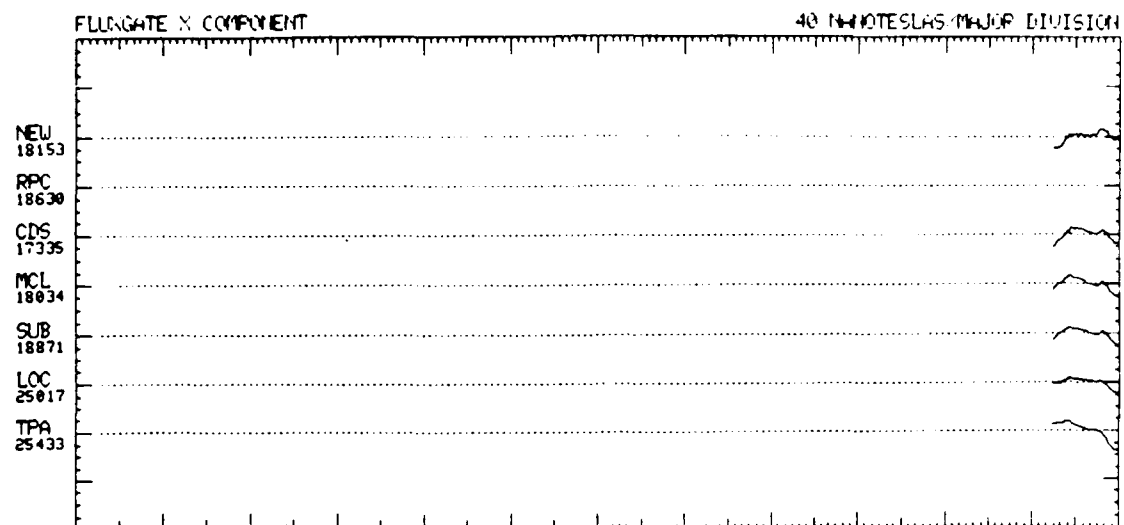
FLUXGATE Z COMPONENT

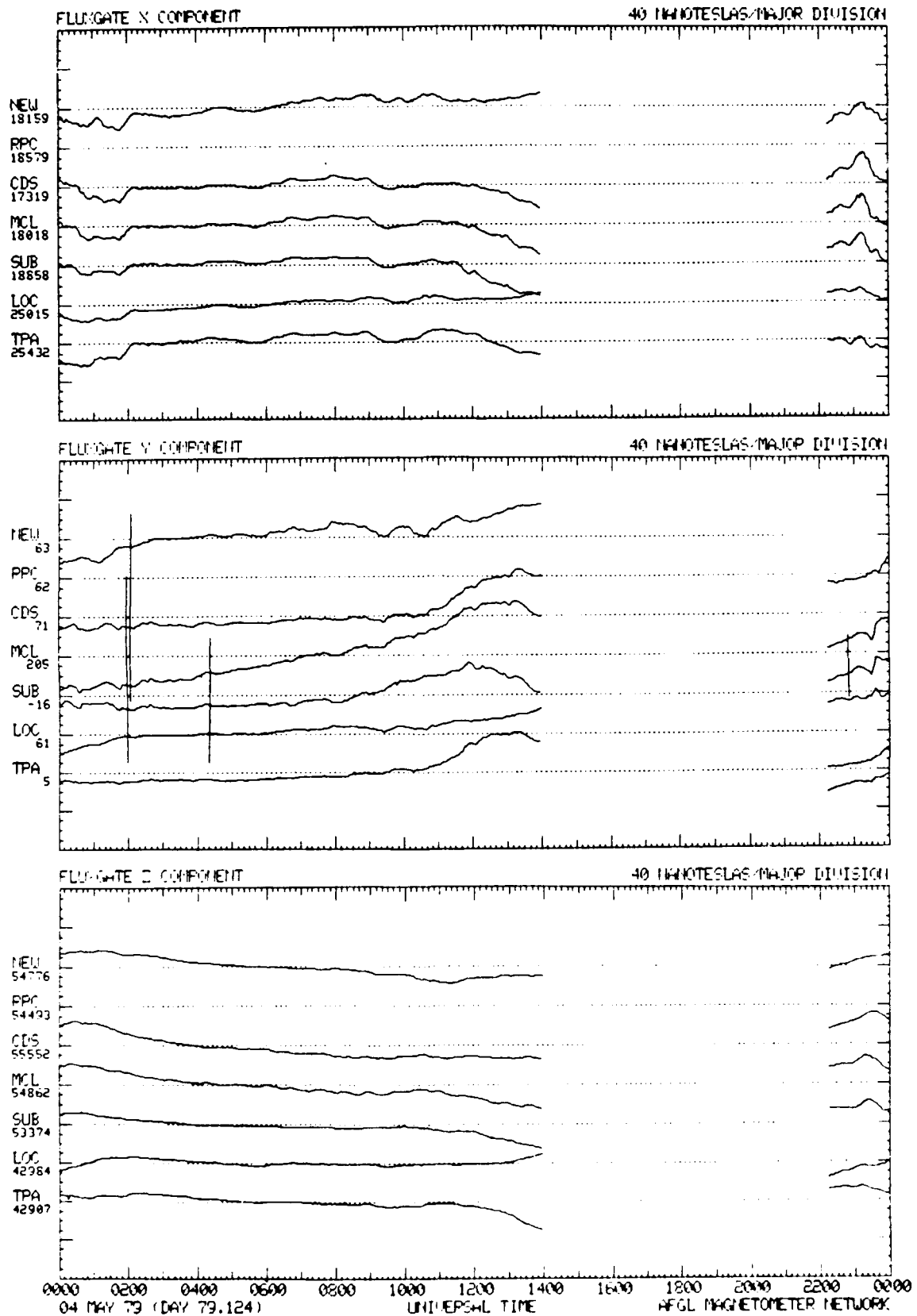
40 NANOTESLAS MAJOR DIVISION

NEW
54777
RPC
54775
CDS
55546
MCL
54853
SUB
53372
LOC
42989
TPA
42906



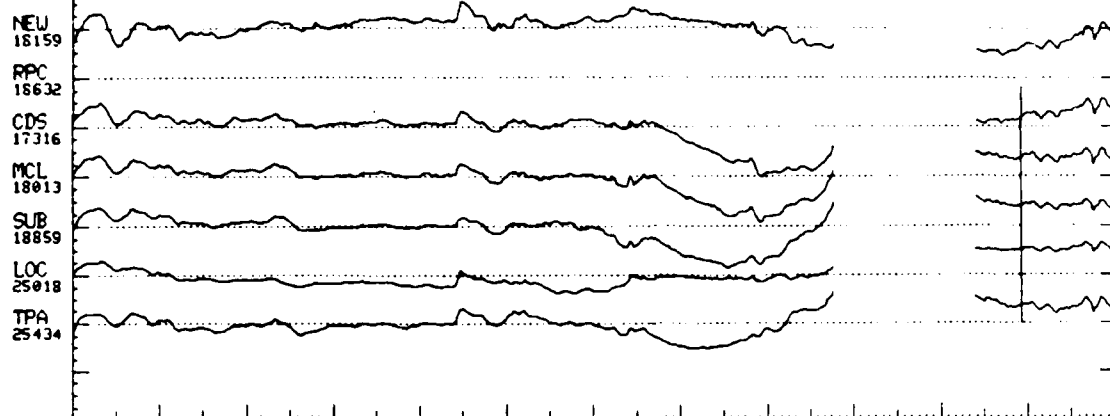
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02 MAY 79 (DAY 79.122) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK





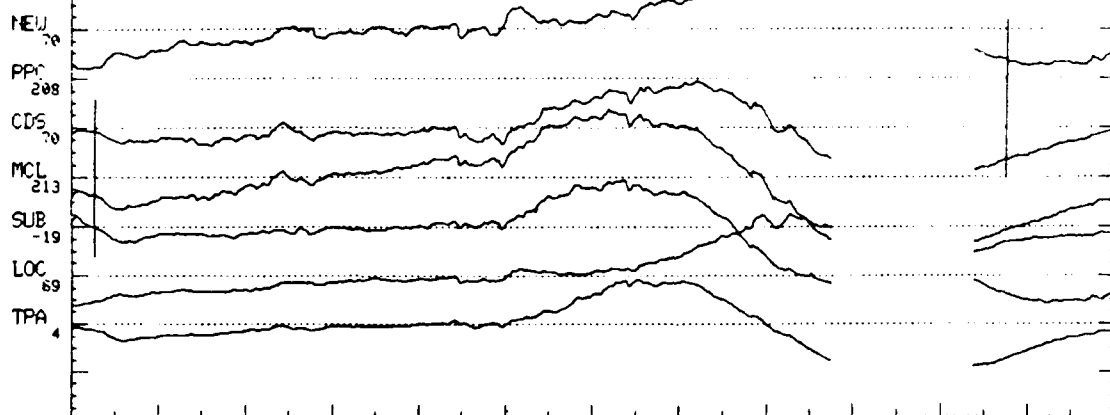
FLIGHT X COMPONENT

40 NANOTESLAS MAJOR DIVISION



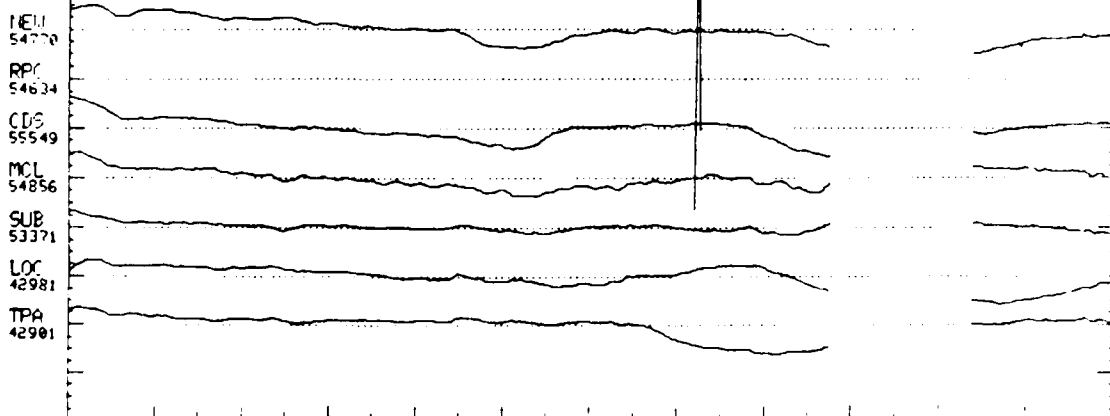
FLIGHT Y COMPONENT

40 NANOTESLAS MAJOR DIVISION

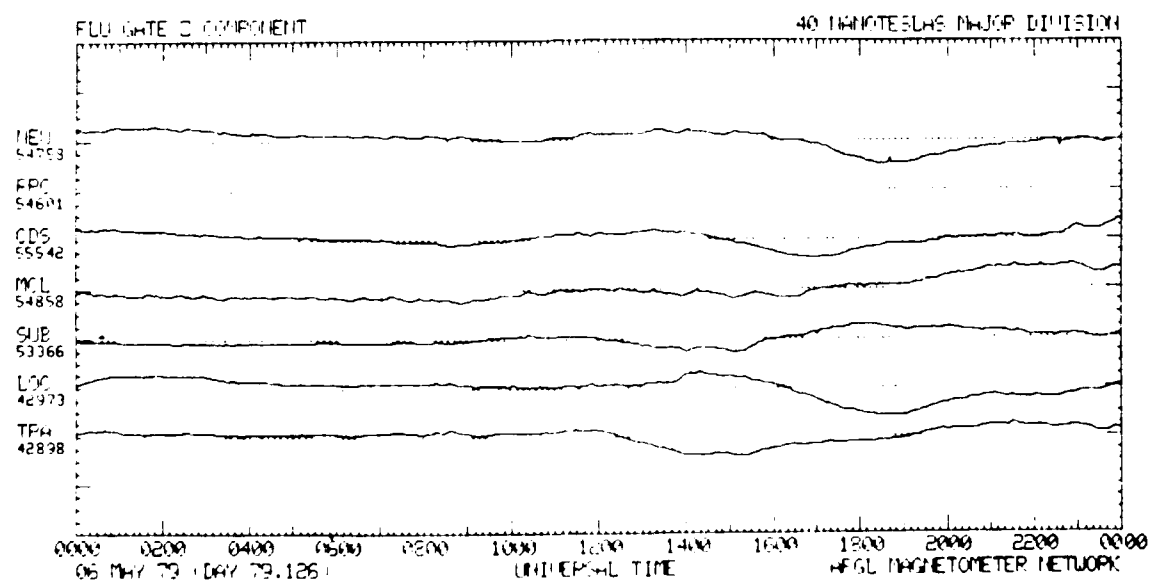
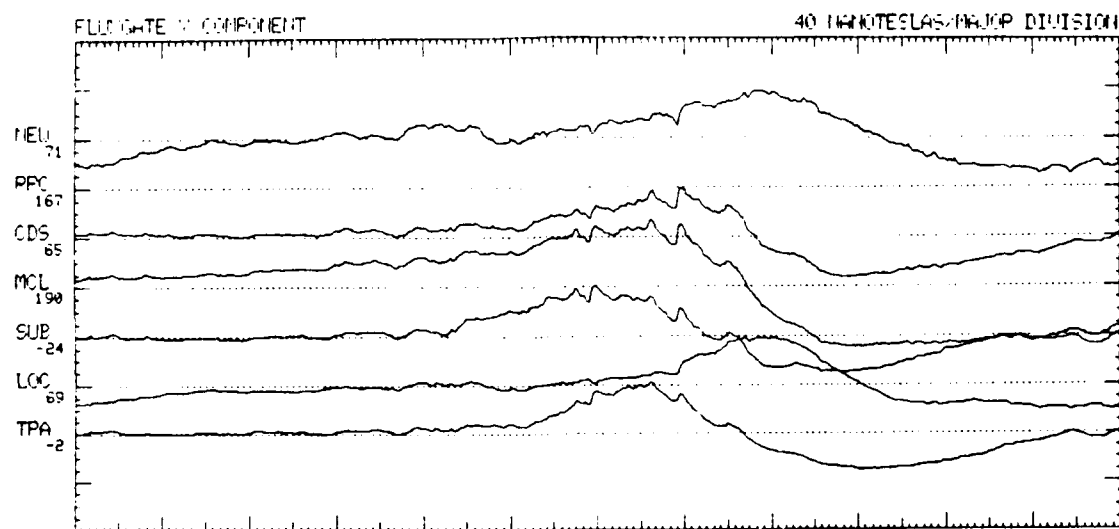
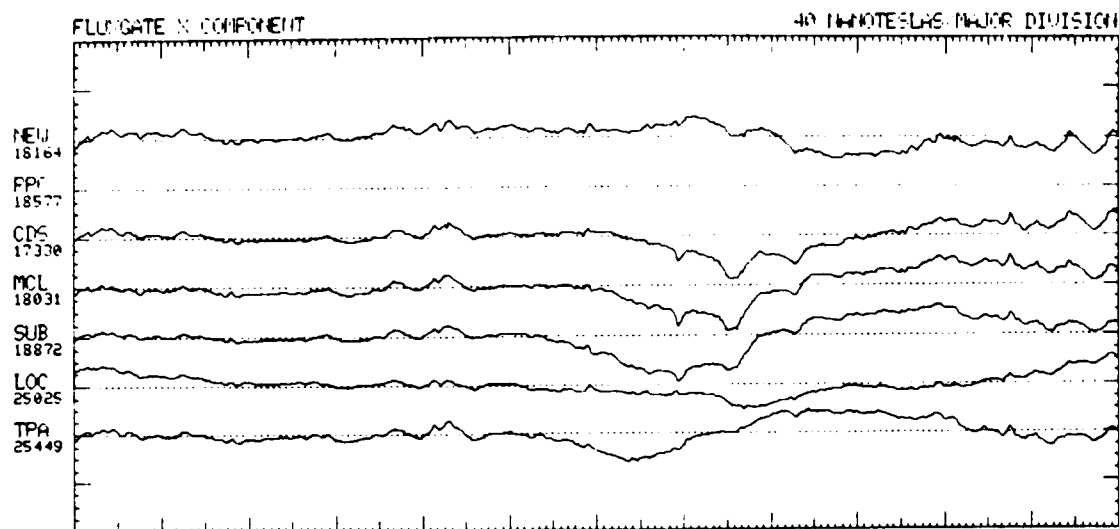


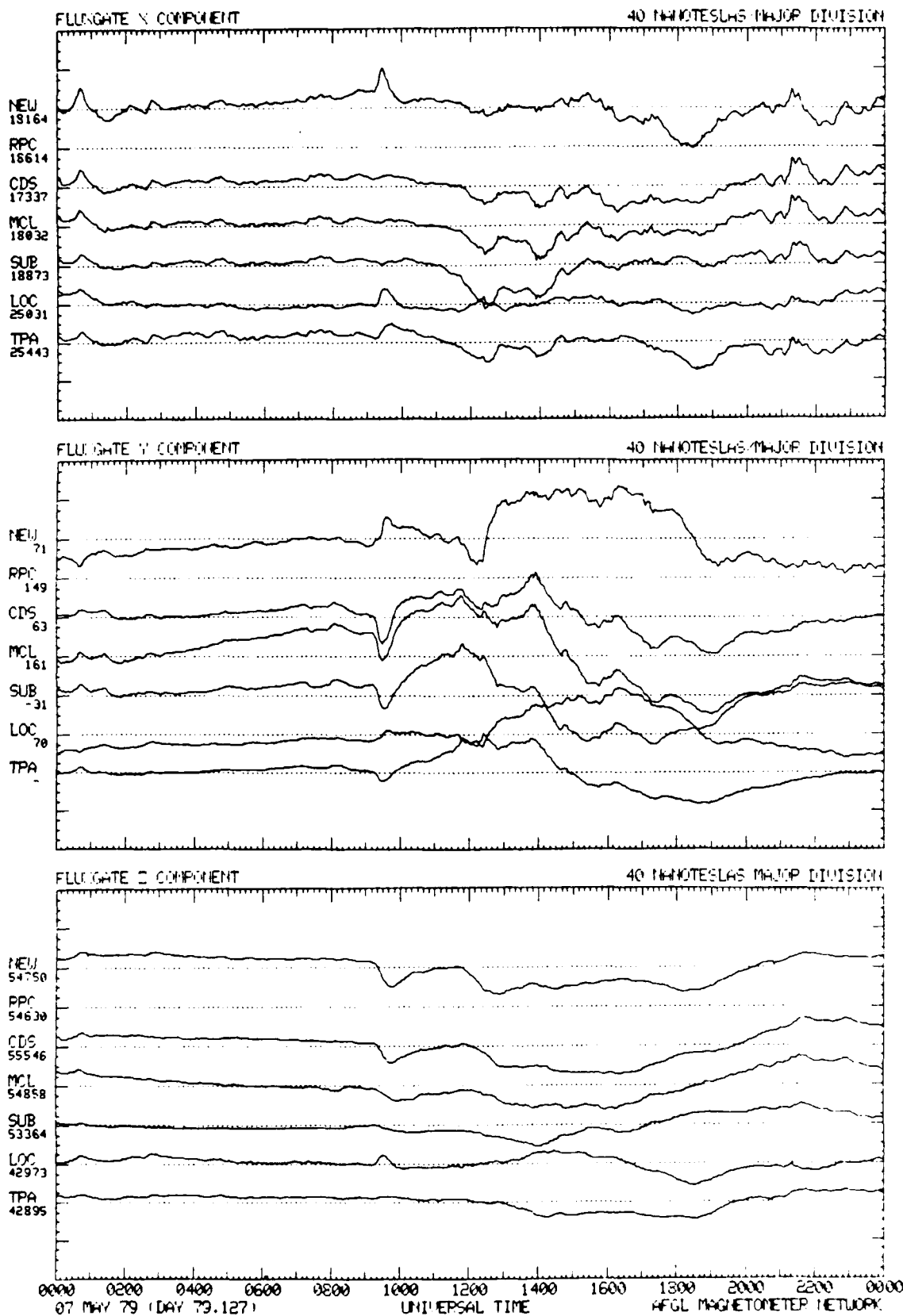
FLIGHT Z COMPONENT

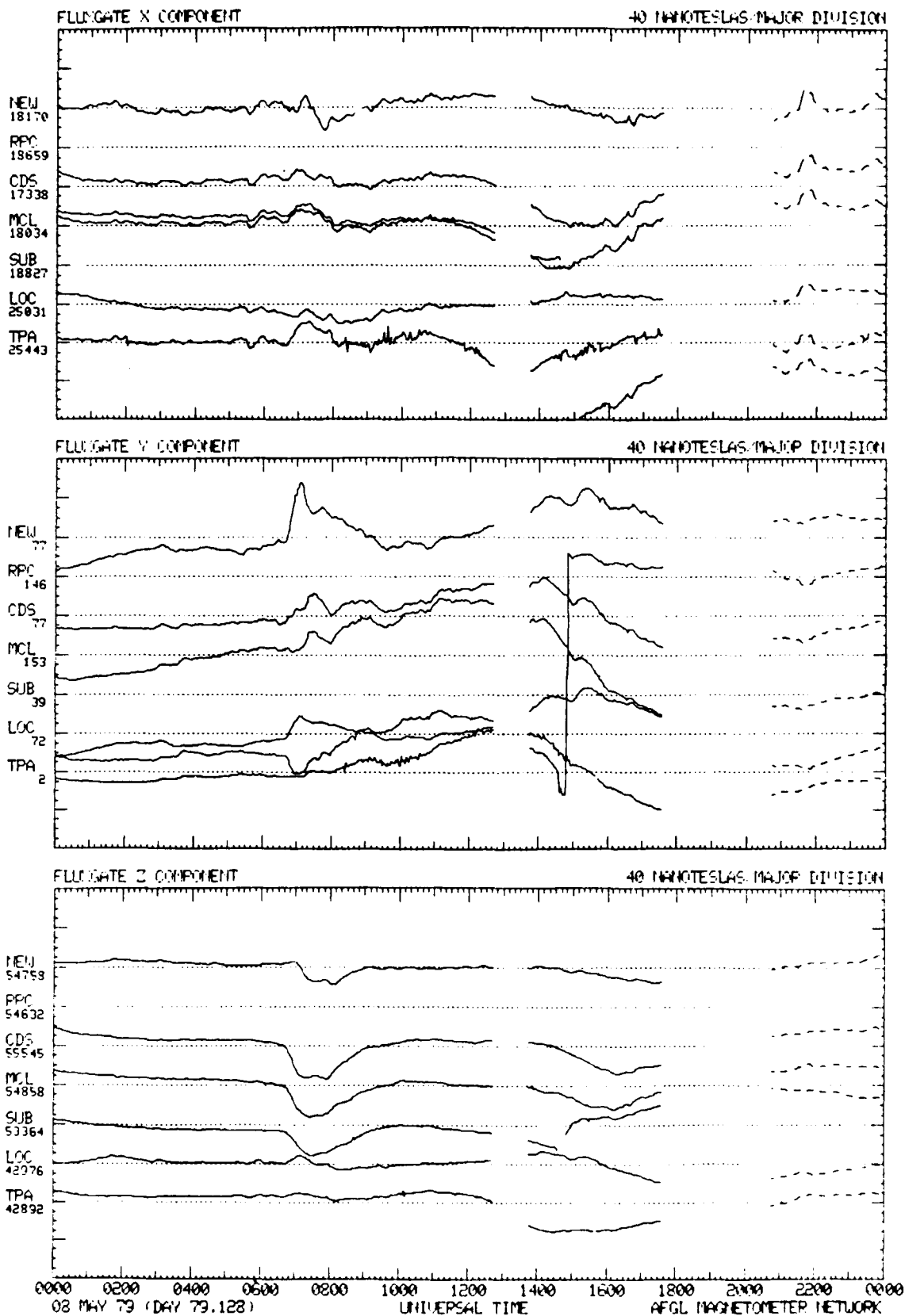
40 NANOTESLAS MAJOR DIVISION

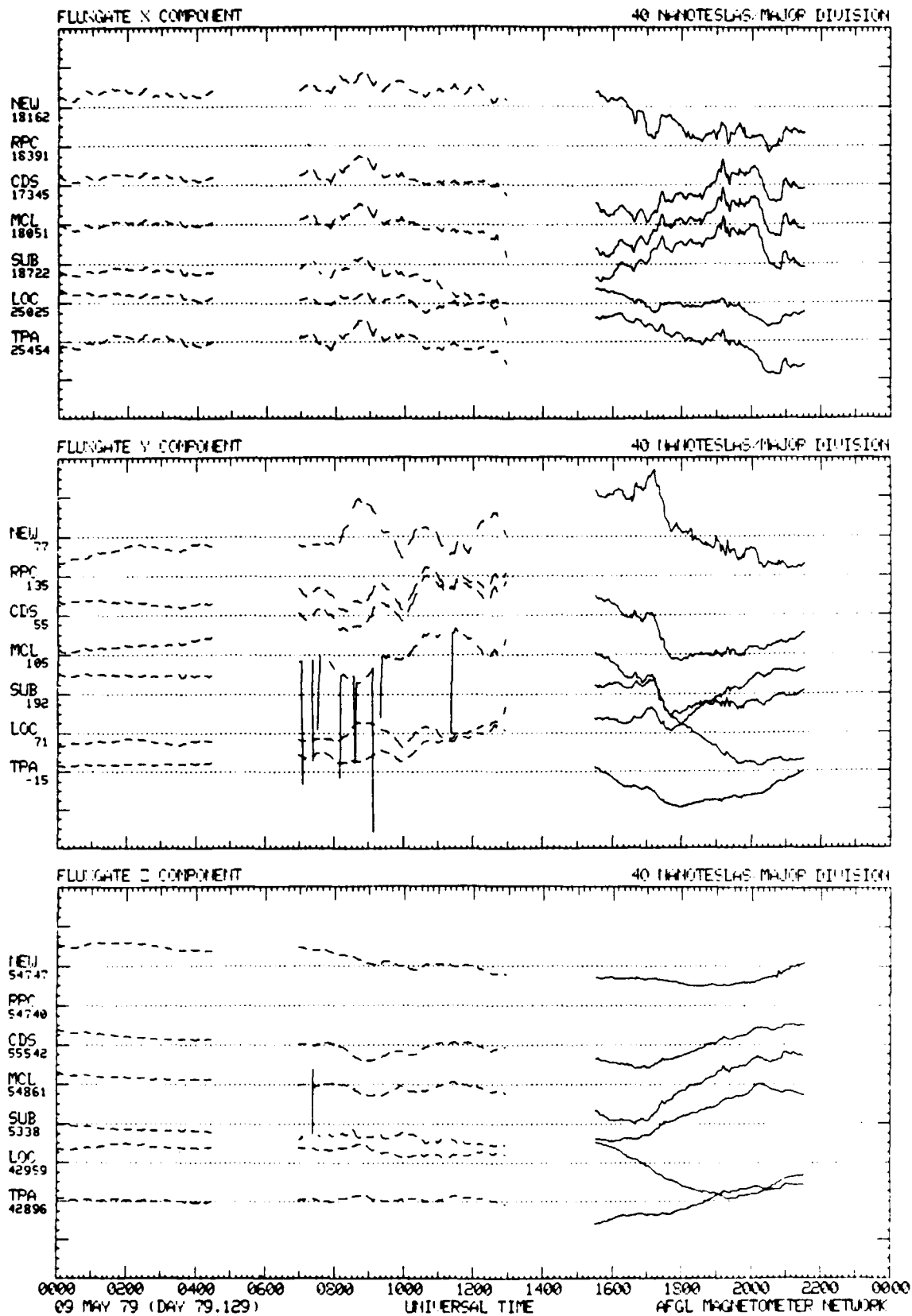


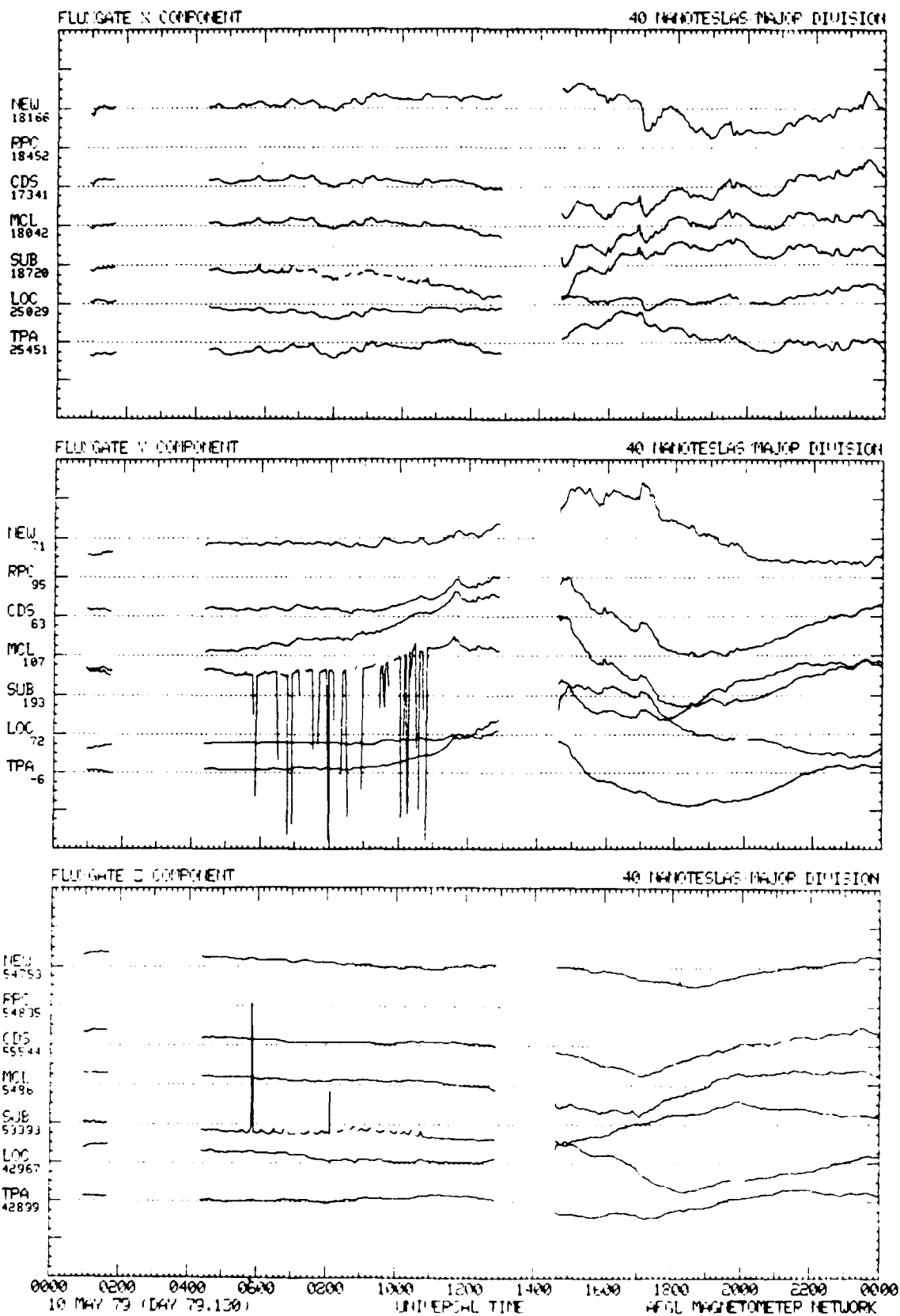
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
05 MAY 79 (DAY 79.125) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

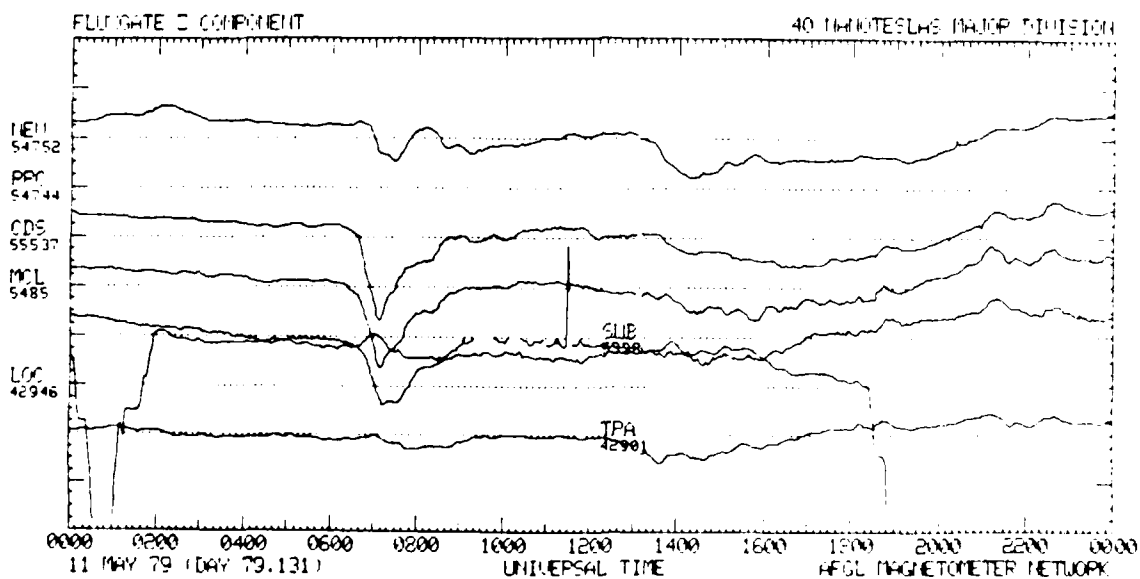
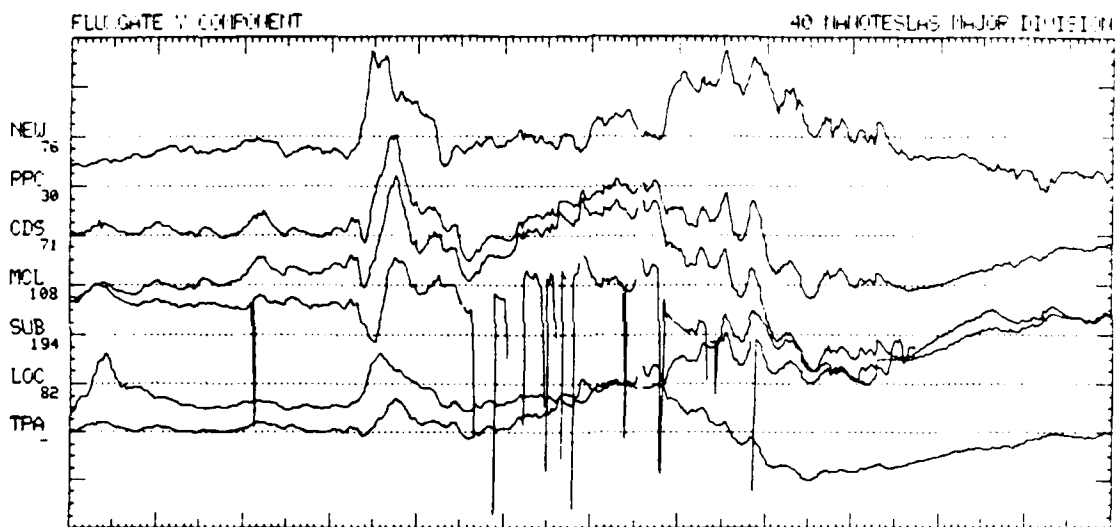
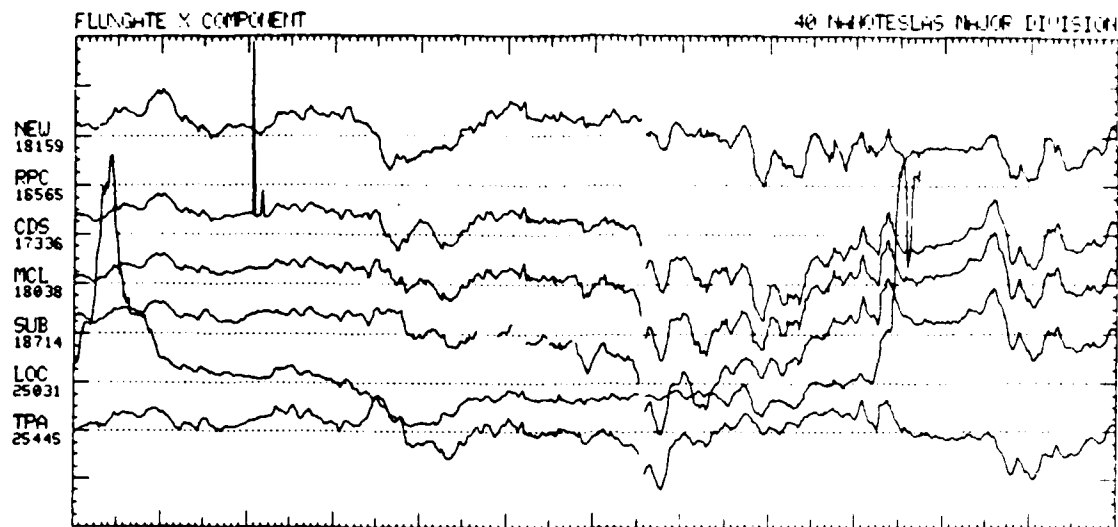


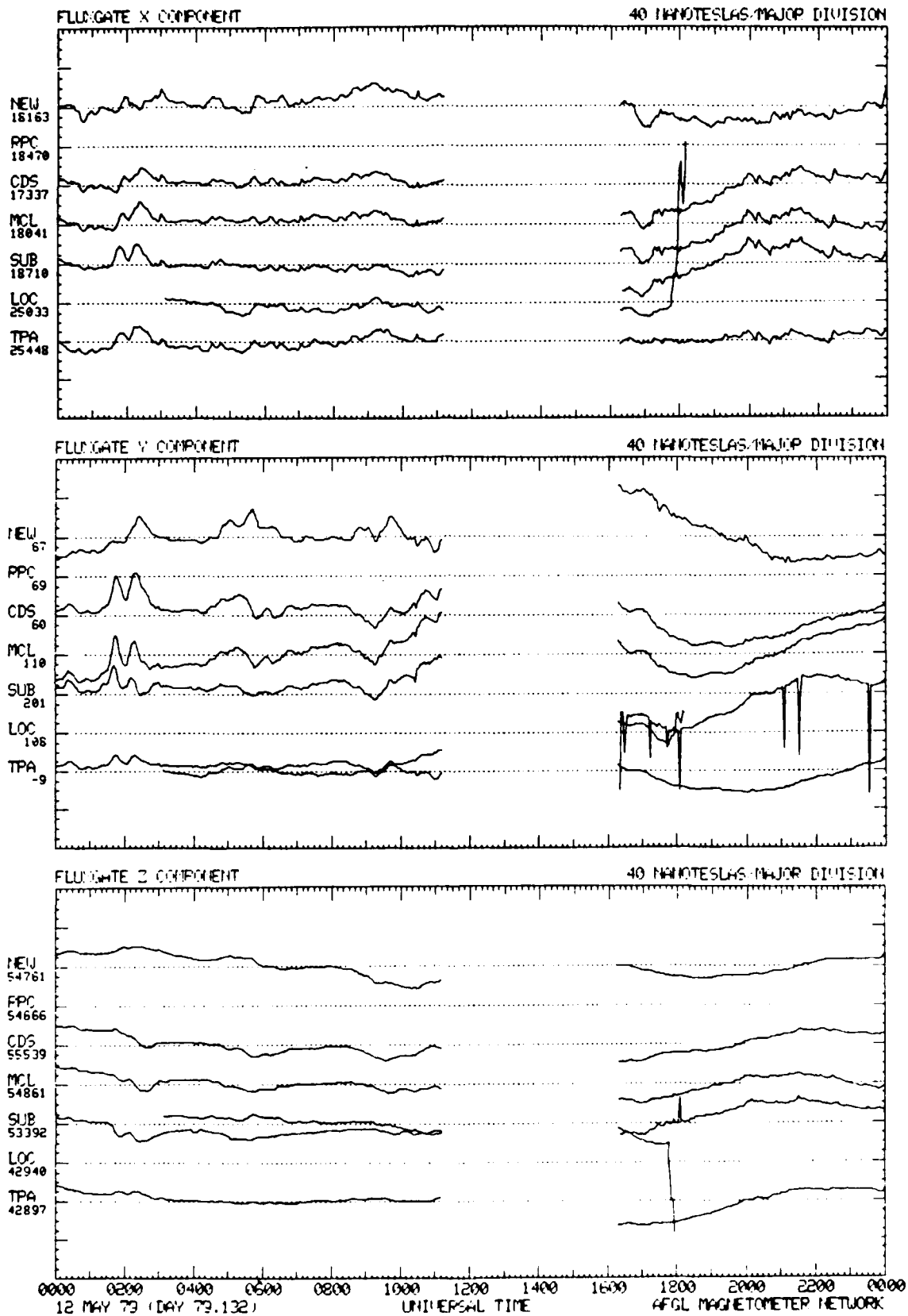


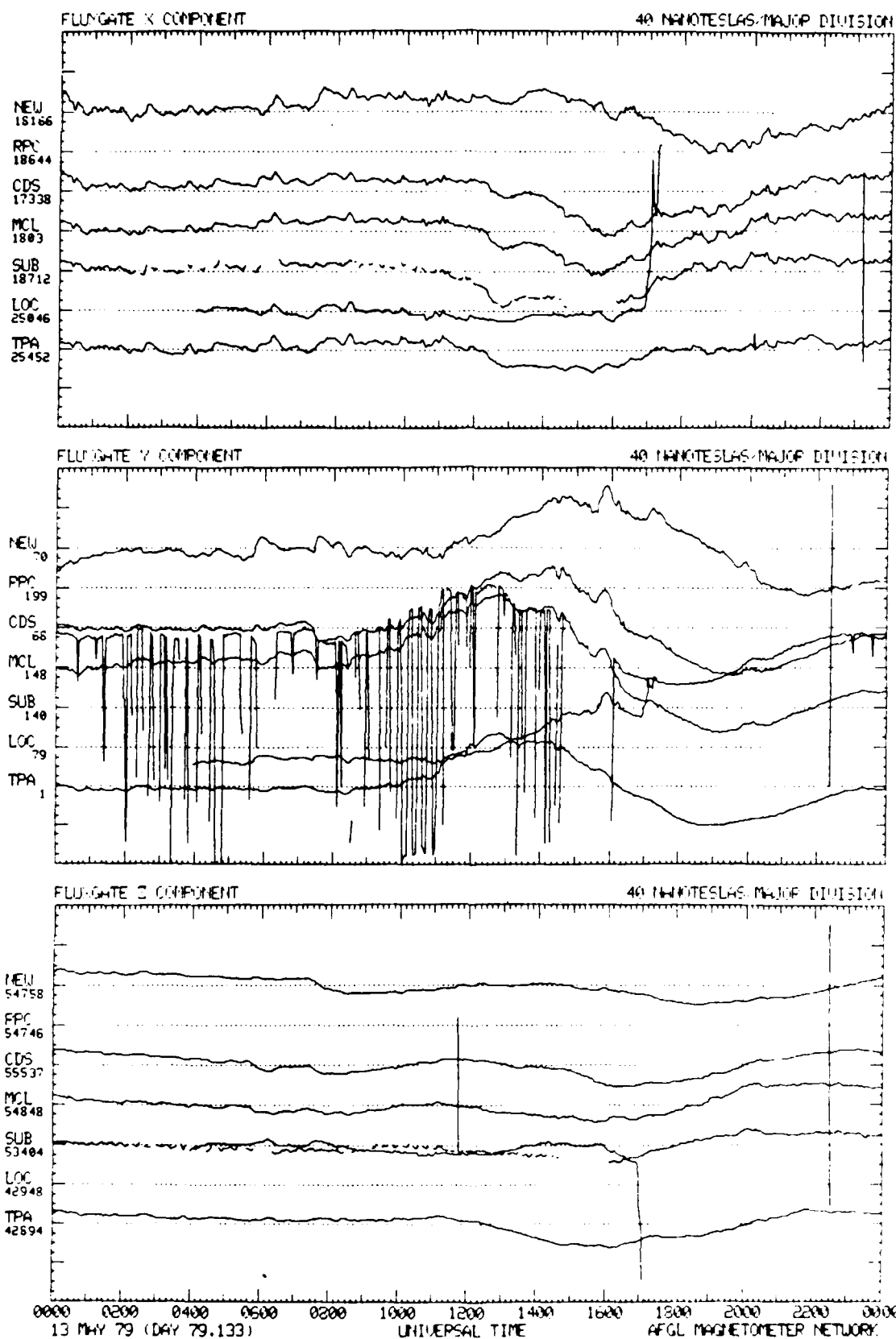


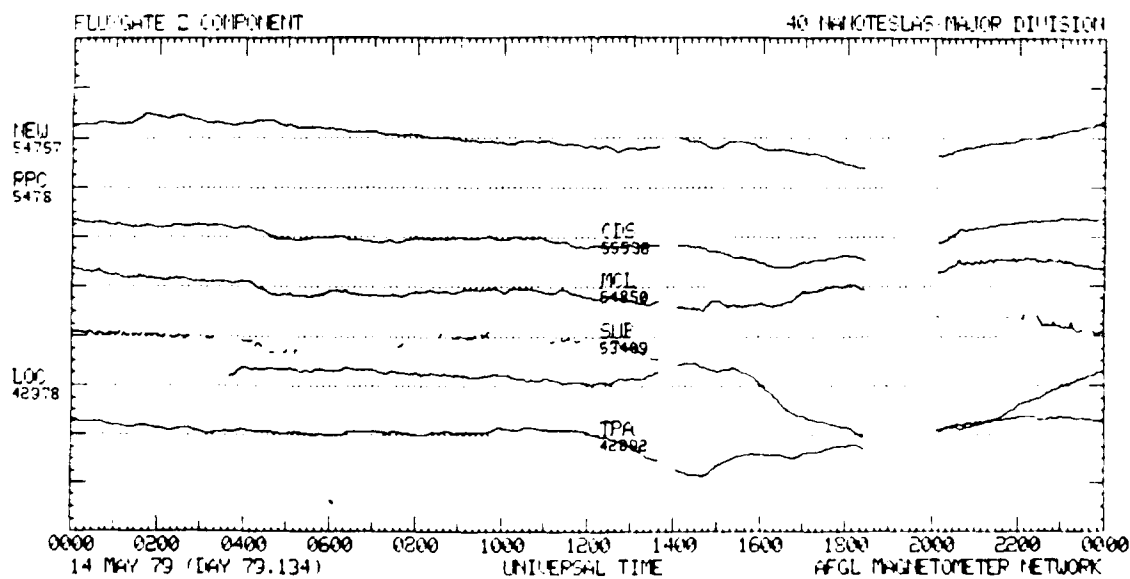
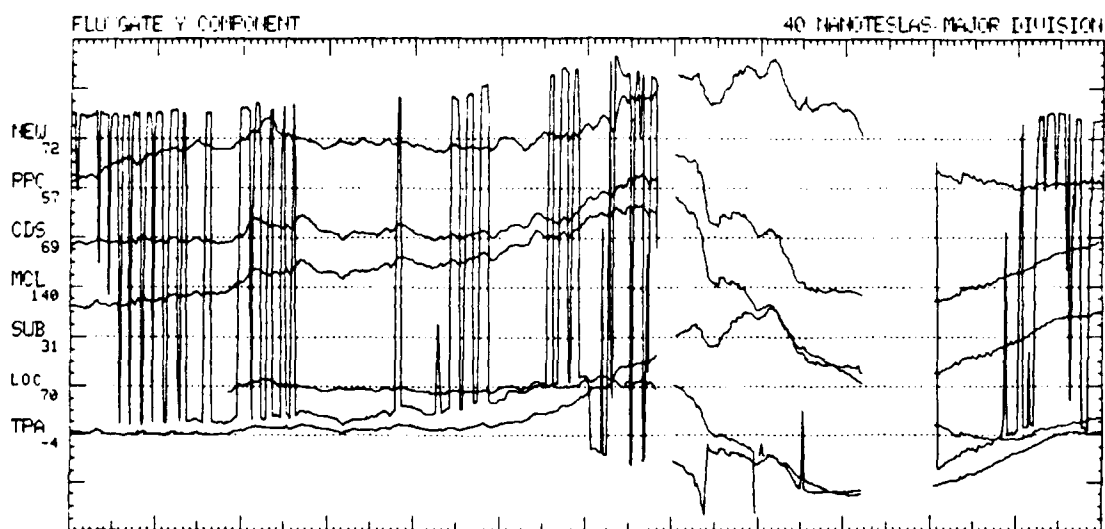
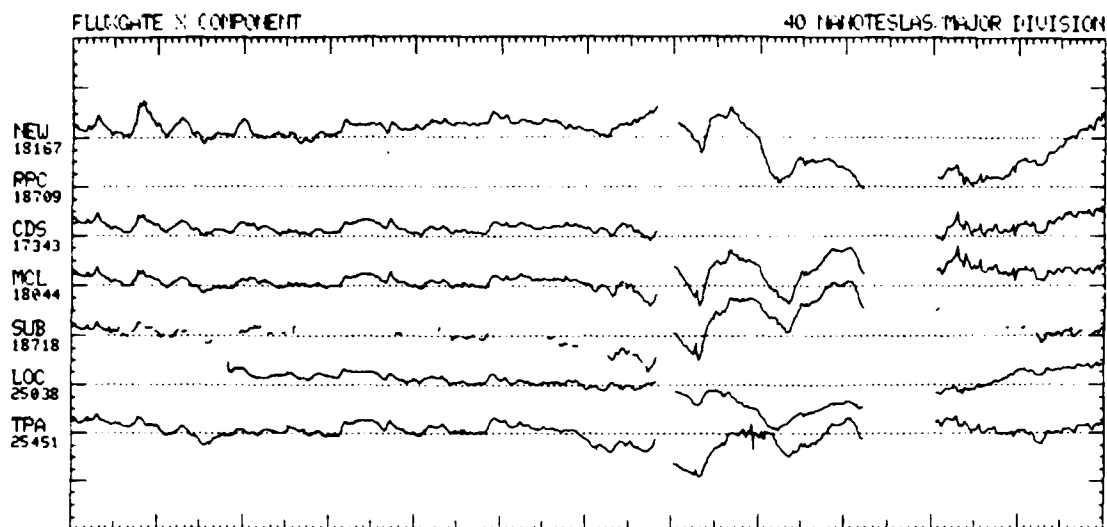


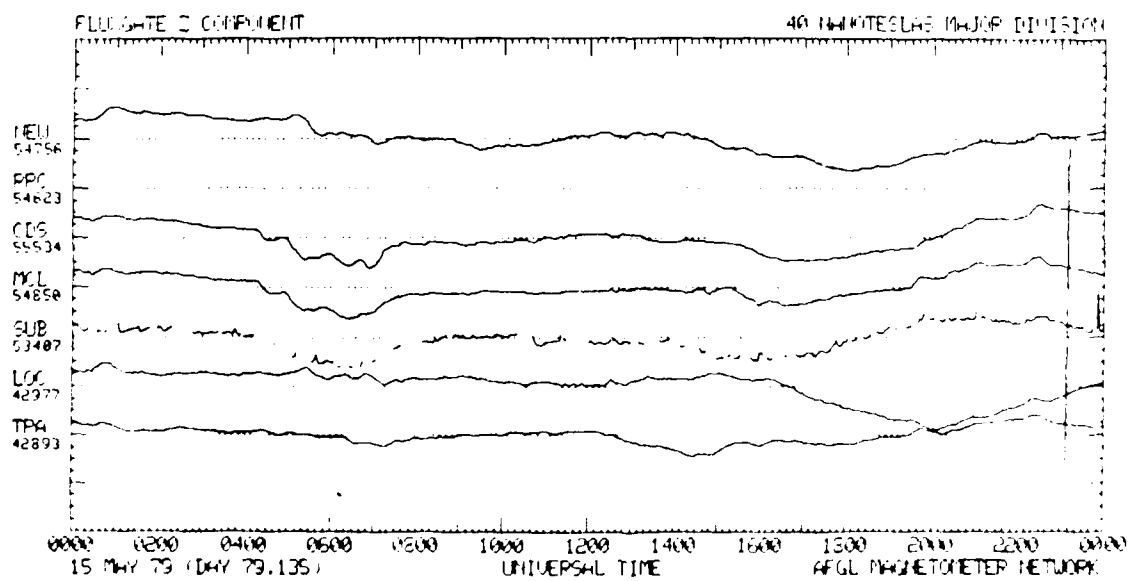
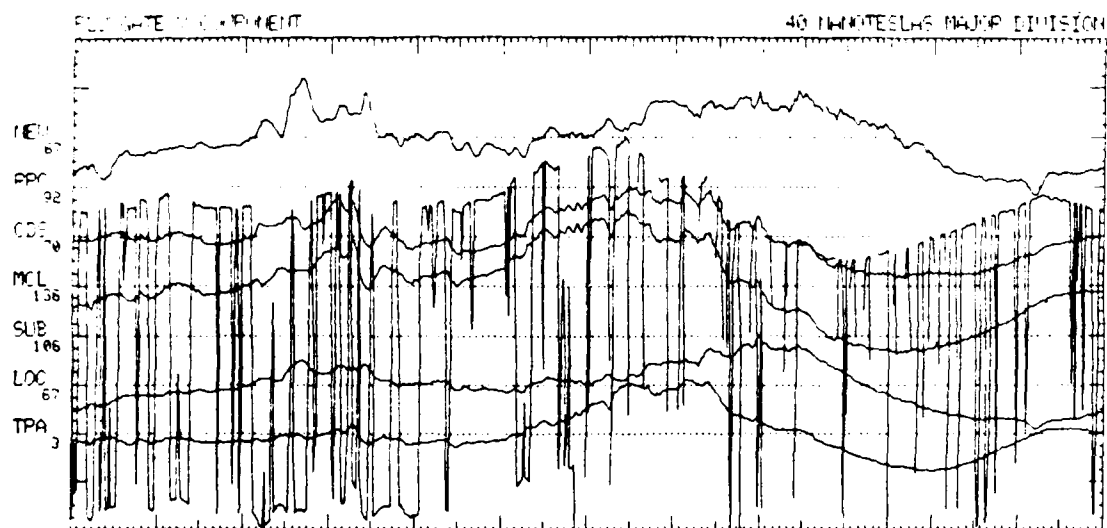
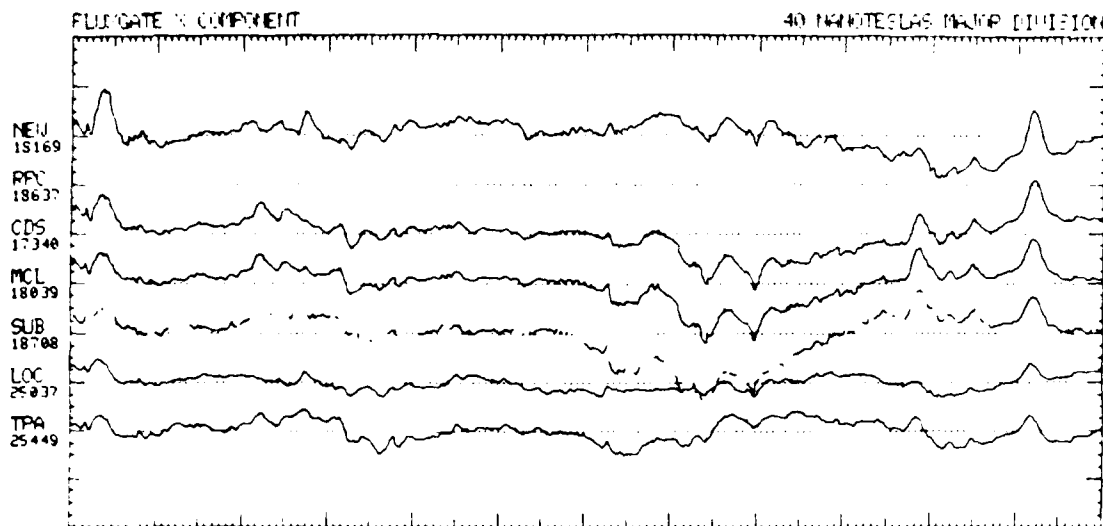


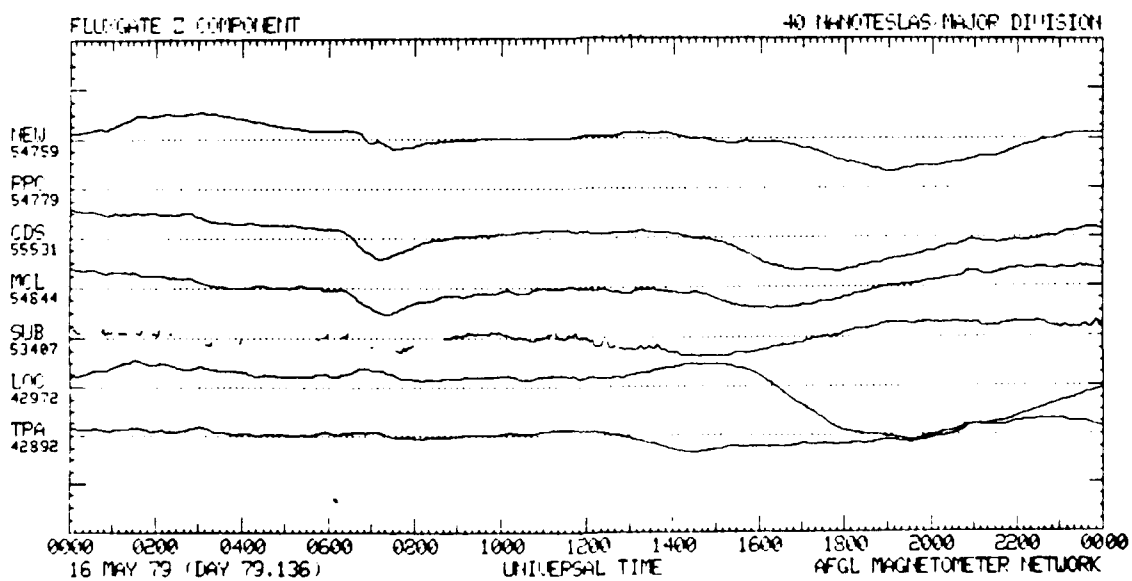
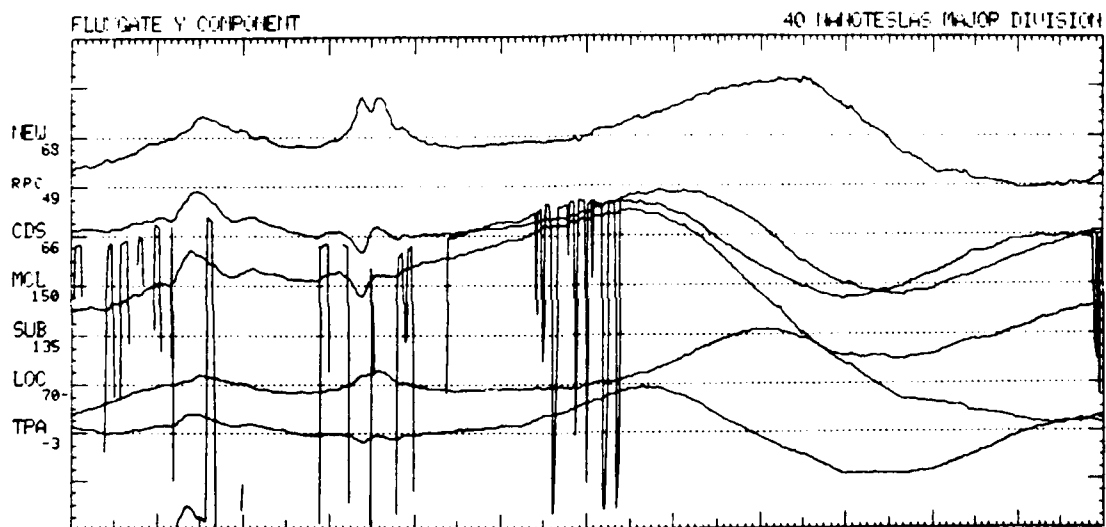
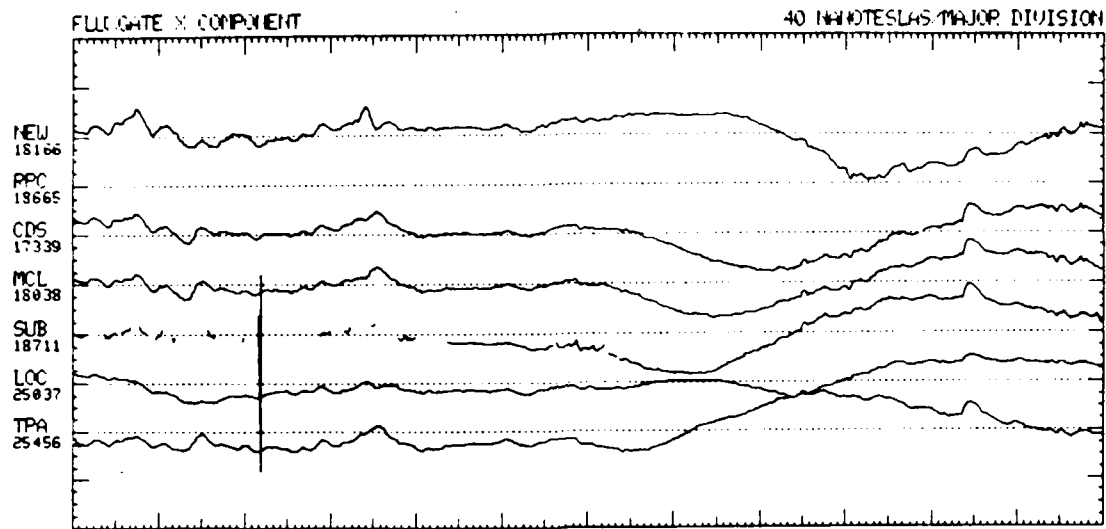


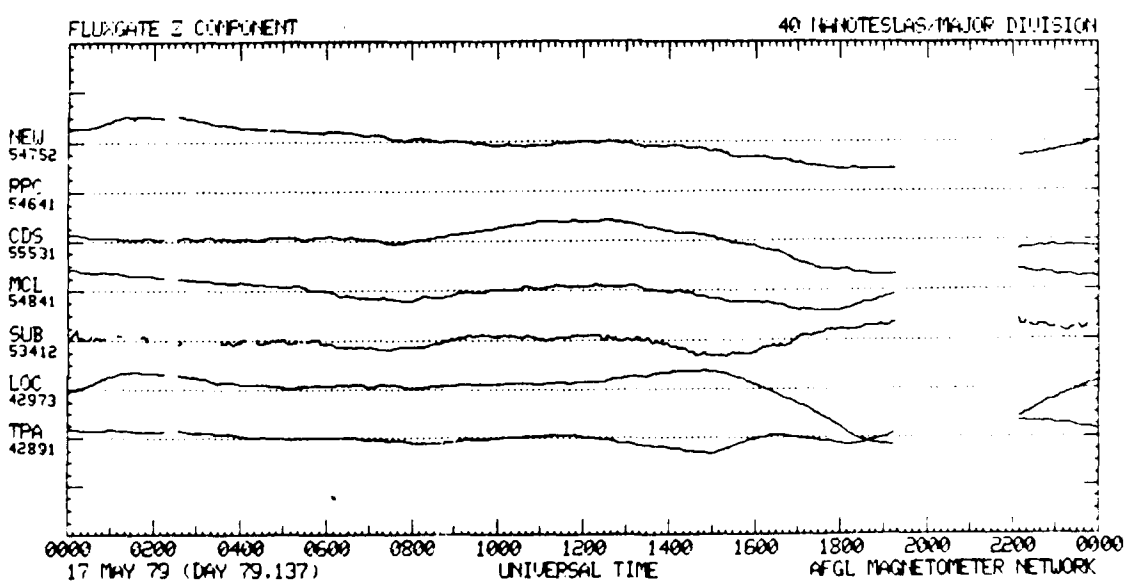
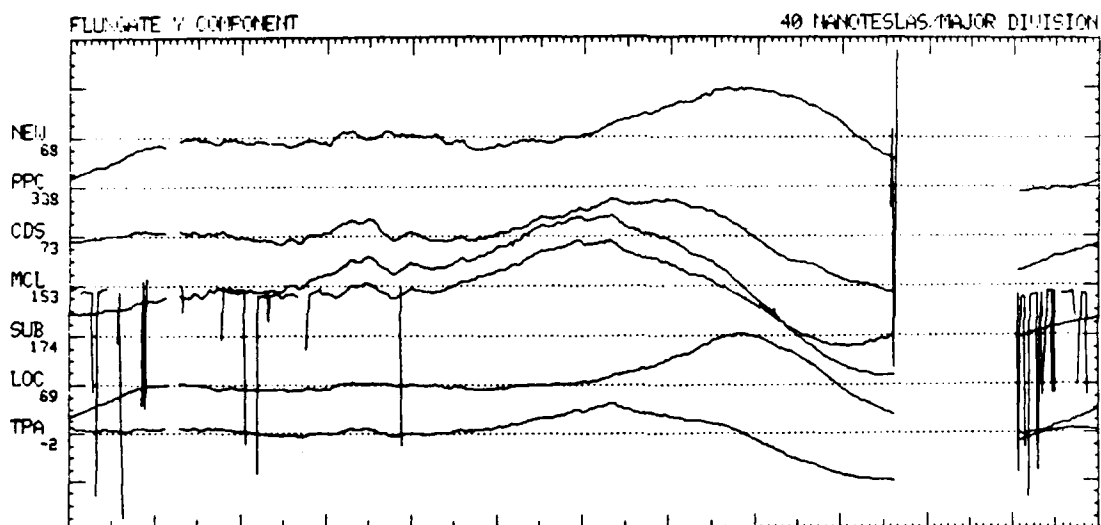
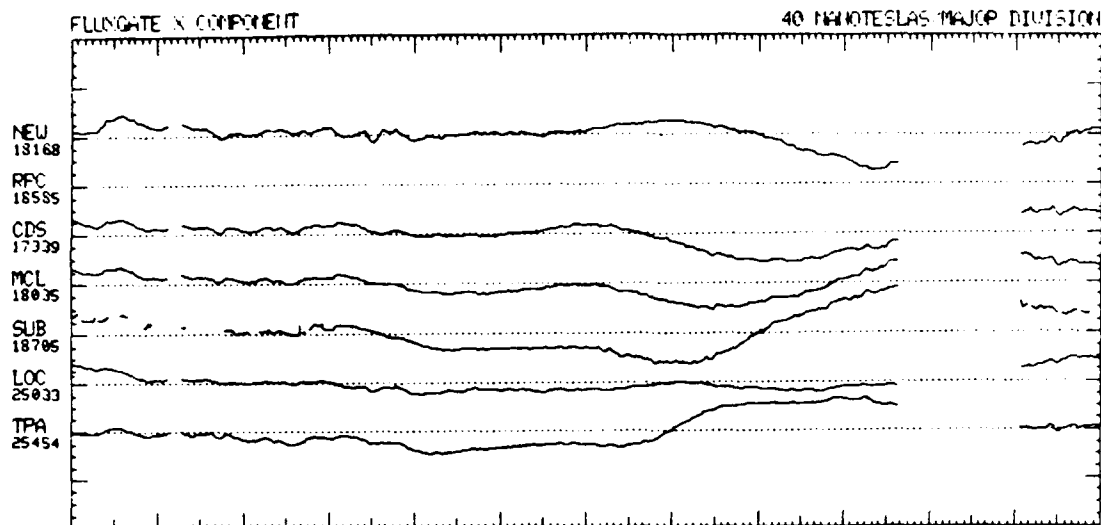


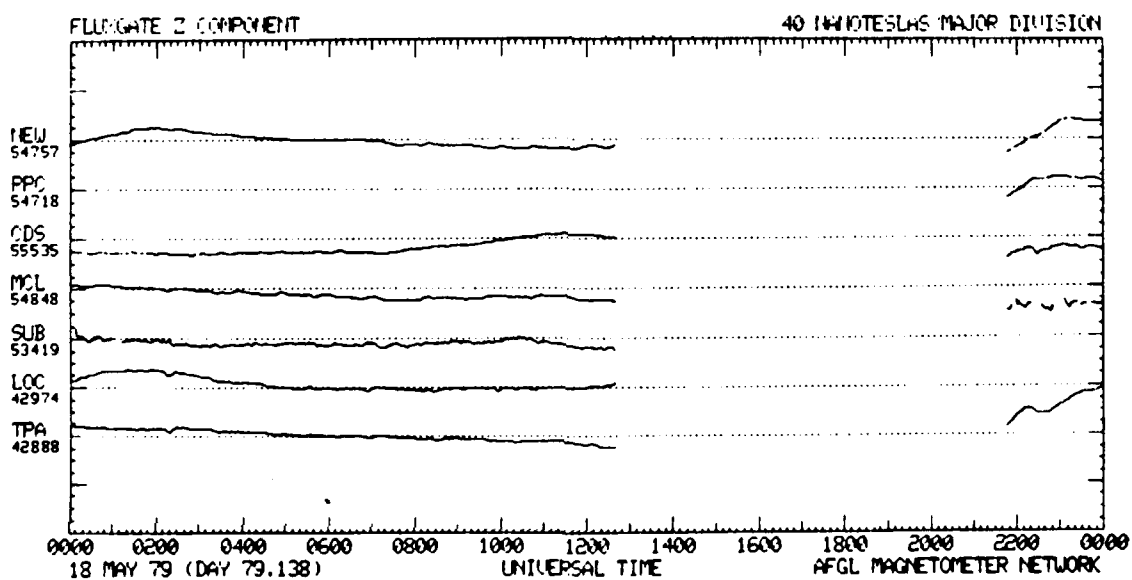
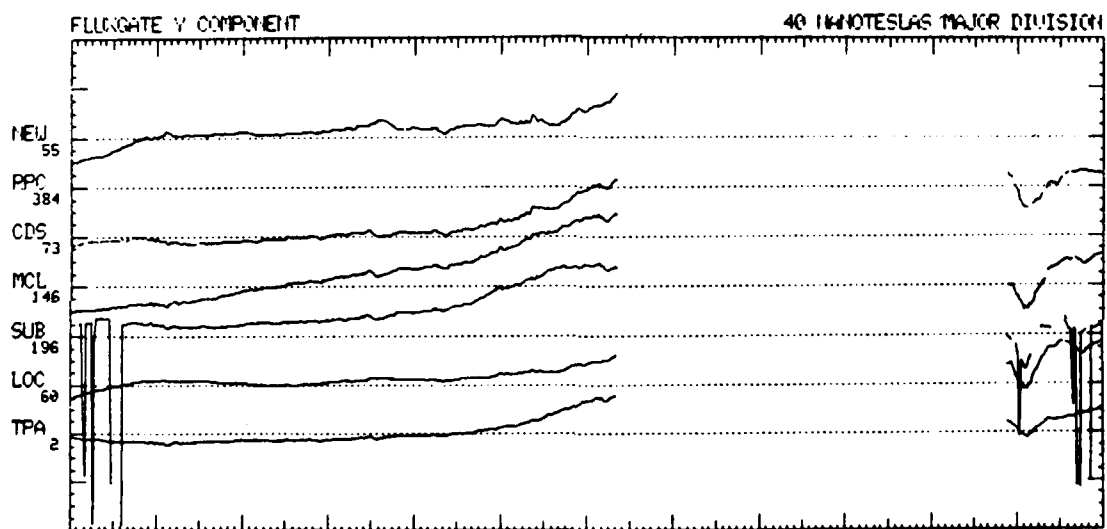
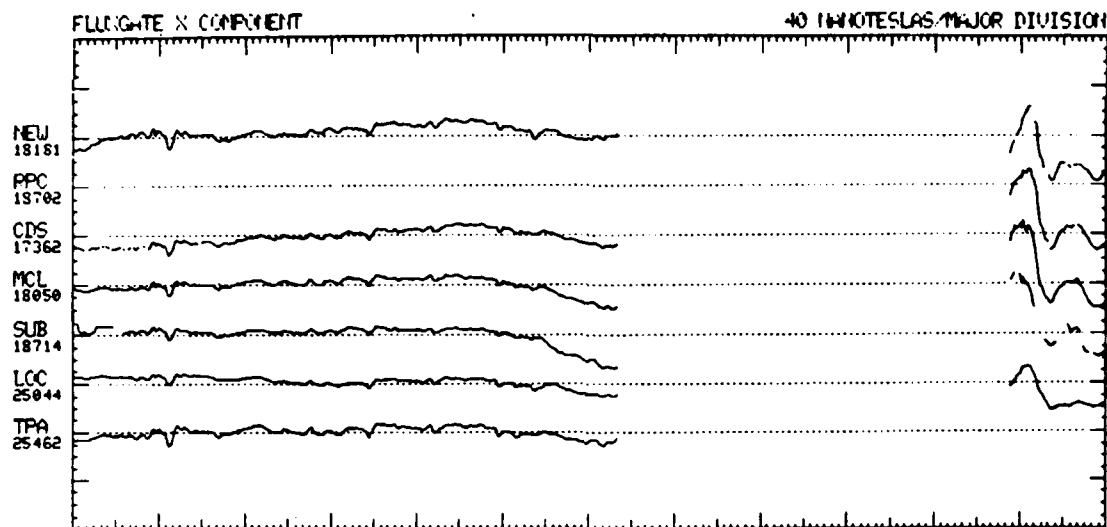


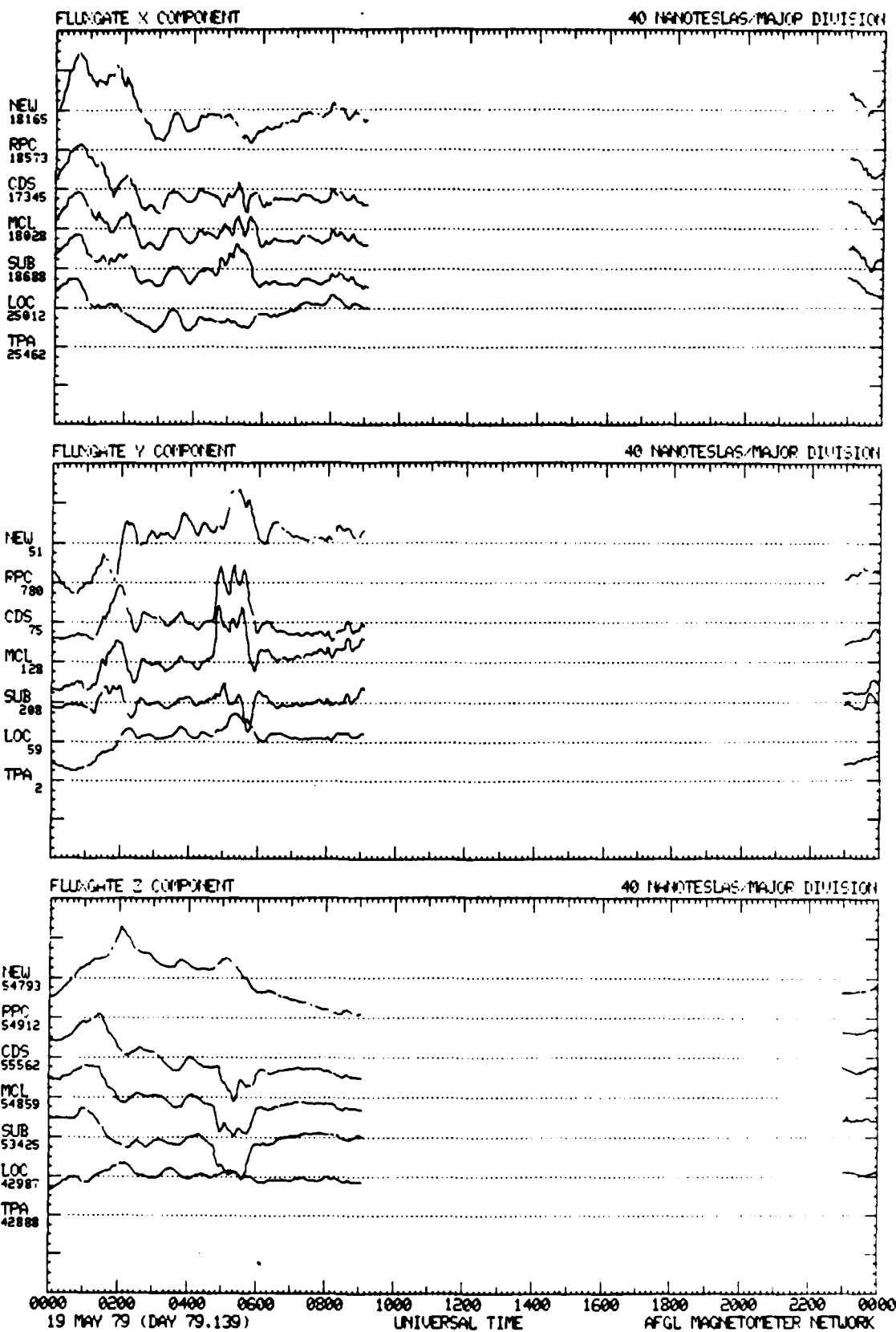


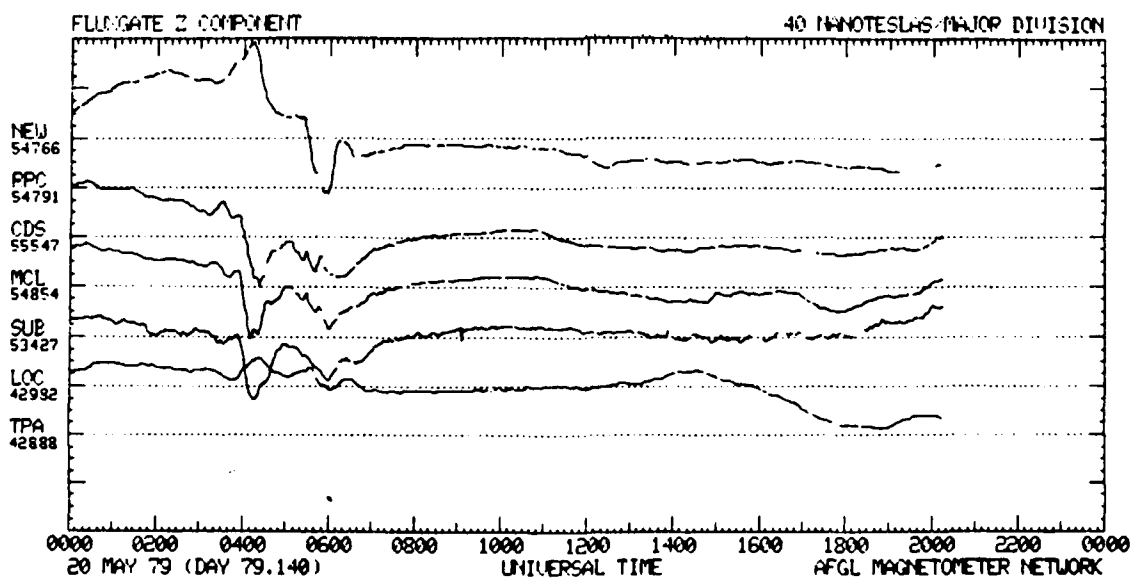
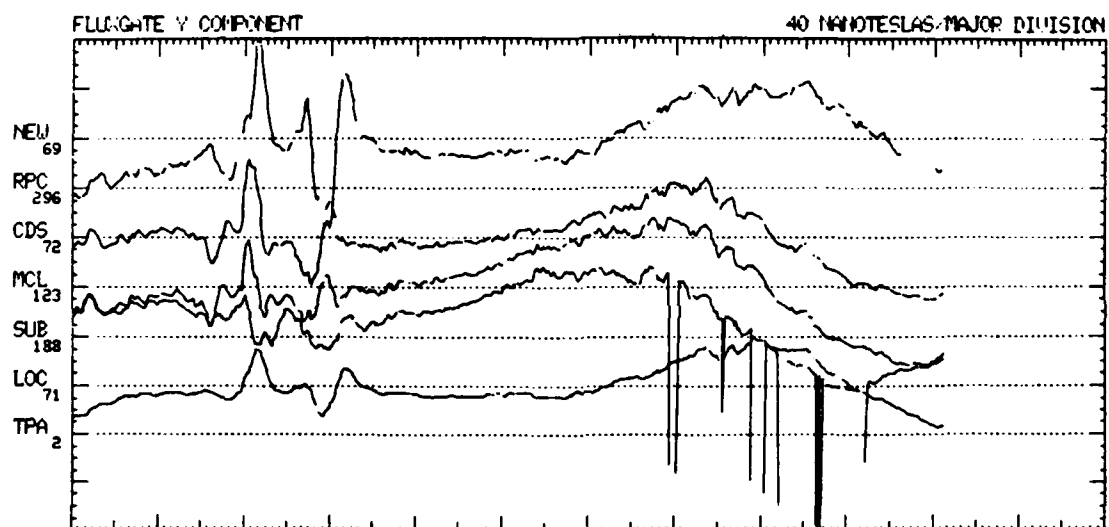
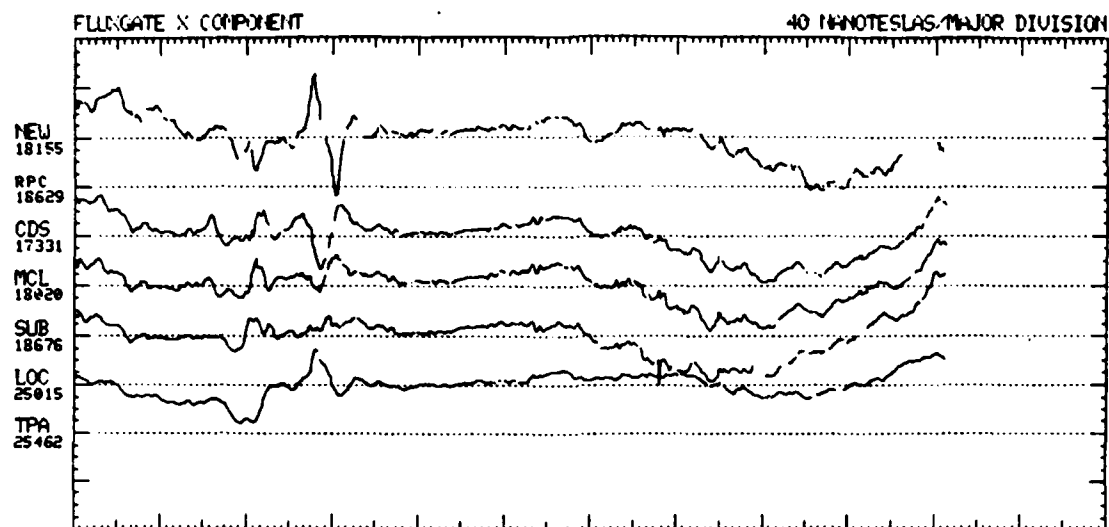


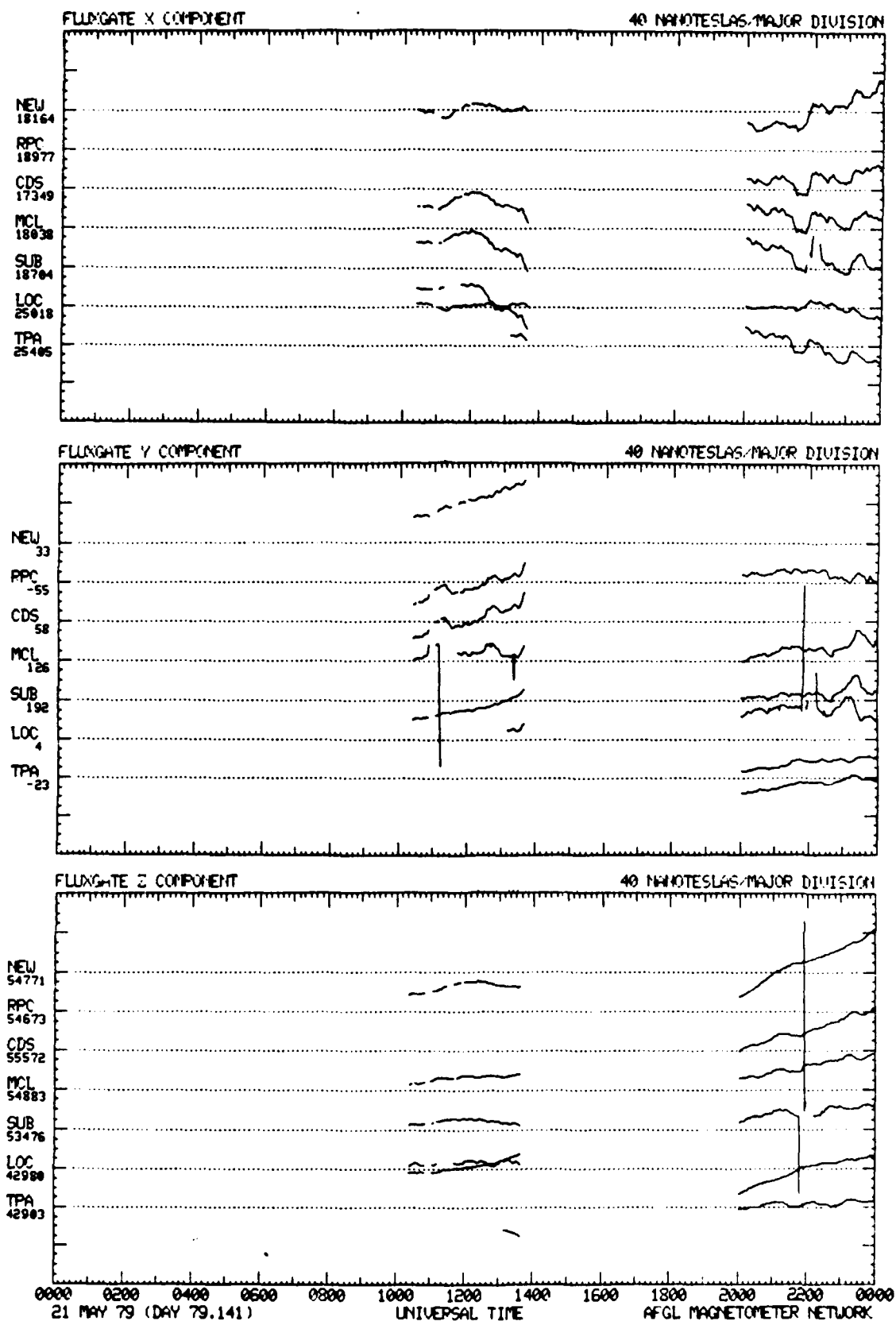


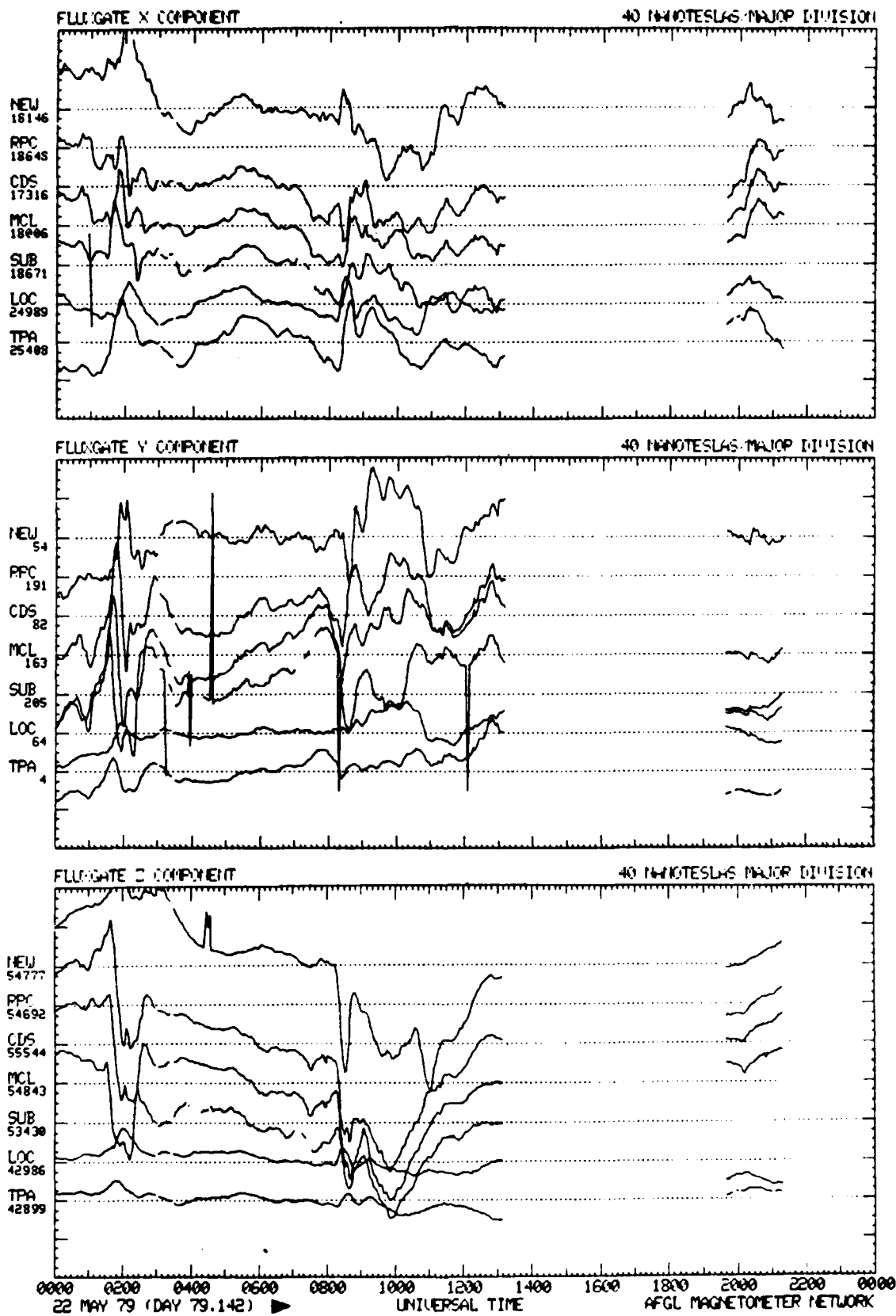








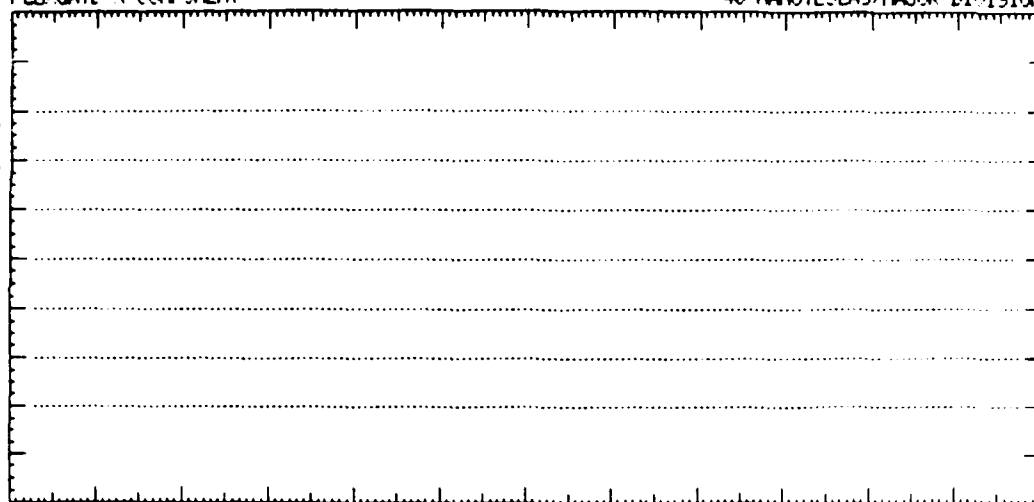




FLUNGATE X COMPONENT

40 NANOTESLAS/MAJOR DIVISION

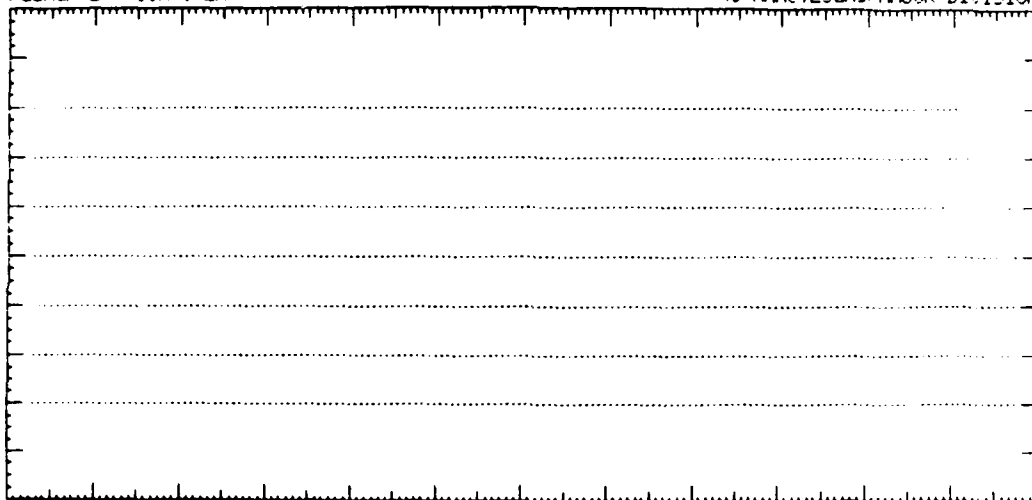
NEW
18146
RPC
18648
CDS
17316
MCL
15006
SUB
18671
LOC
24989
TPA
25408



FLUNGATE Y COMPONENT

40 NANOTESLAS/MAJOR DIVISION

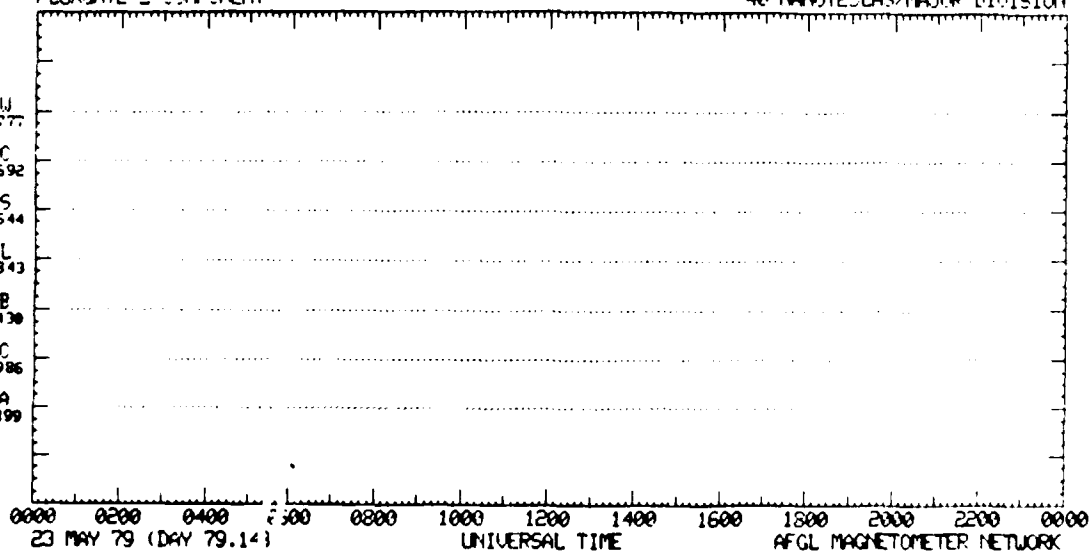
NEW
54
RPC
191
CDS
82
MCL
163
SUB
205
LOC
64
TPA
4



FLUNGATE Z COMPONENT

40 NANOTESLAS/MAJOR DIVISION

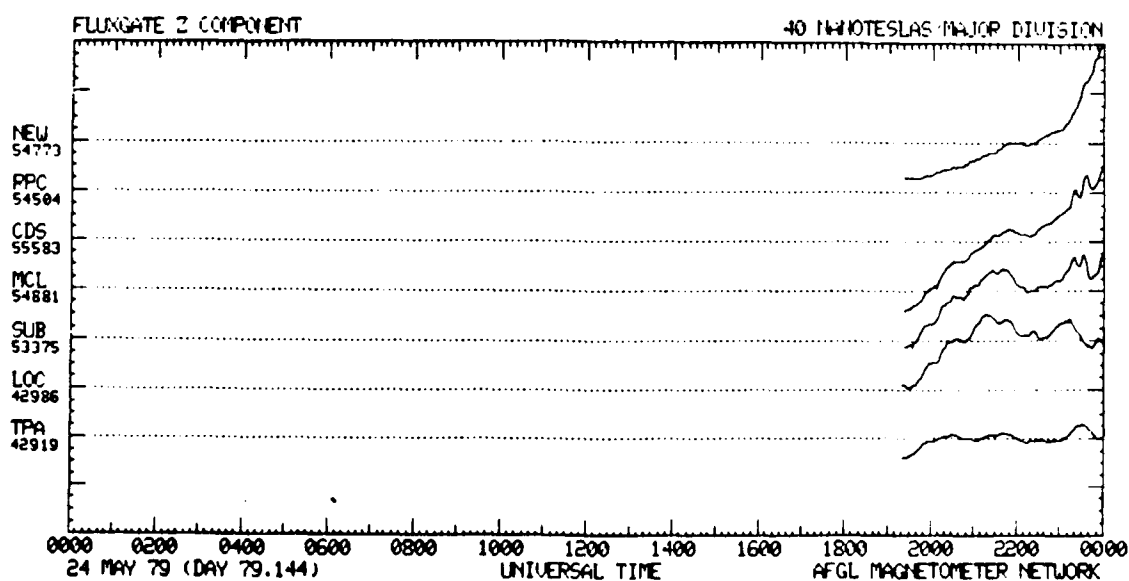
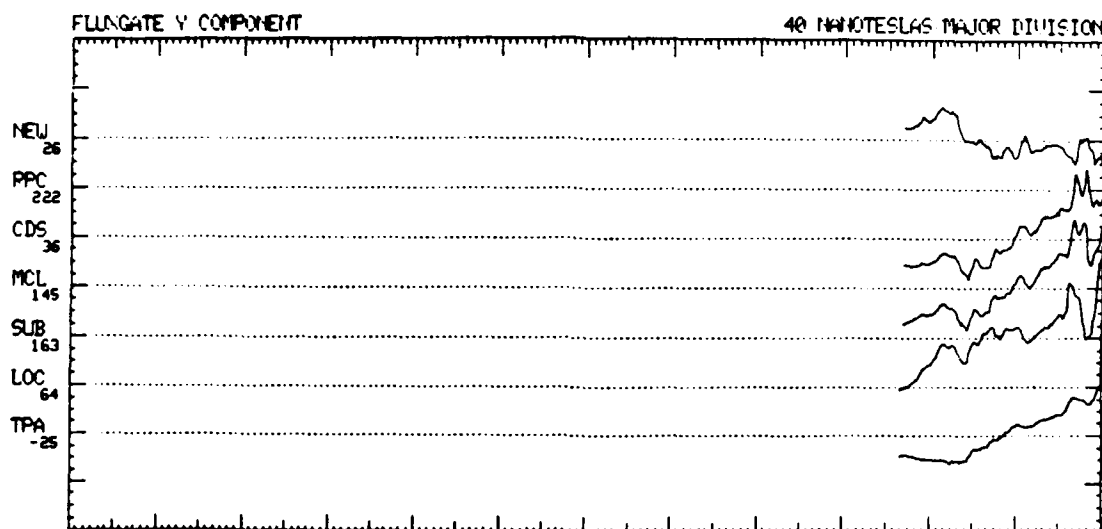
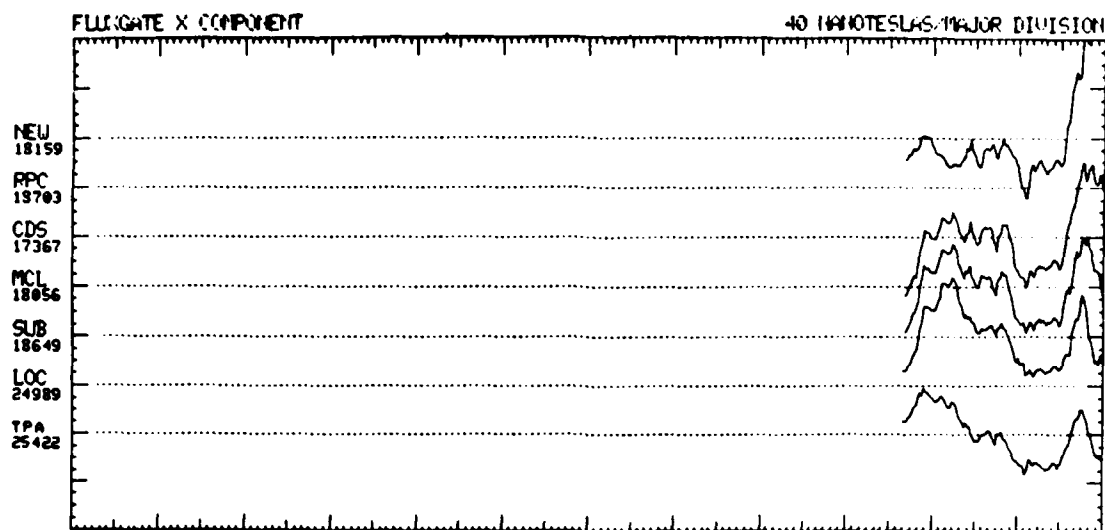
NEW
54777
RPC
54692
CDS
55544
MCL
54843
SUB
53430
LOC
42986
TPA
42899

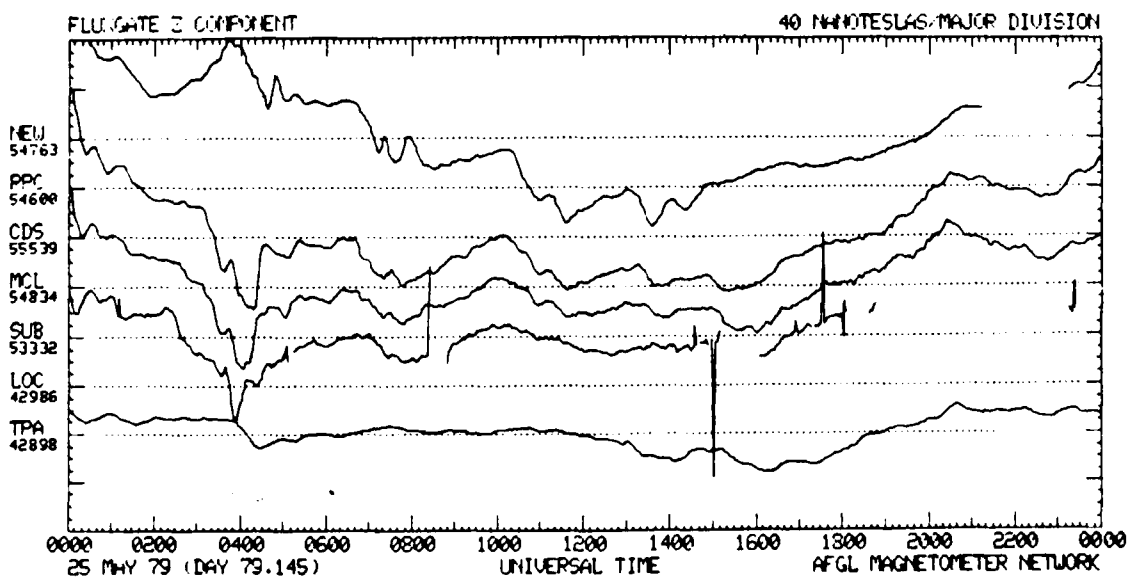
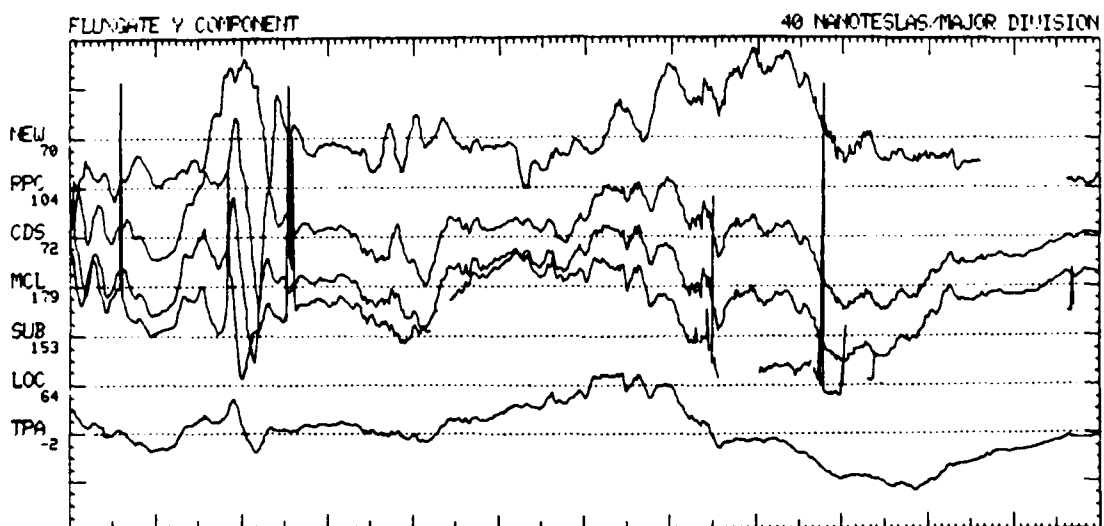
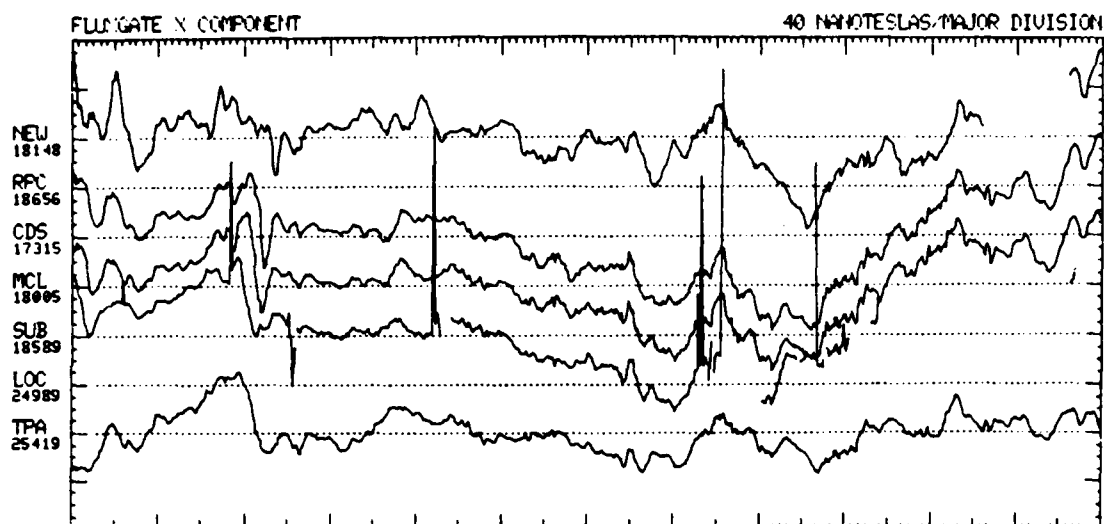


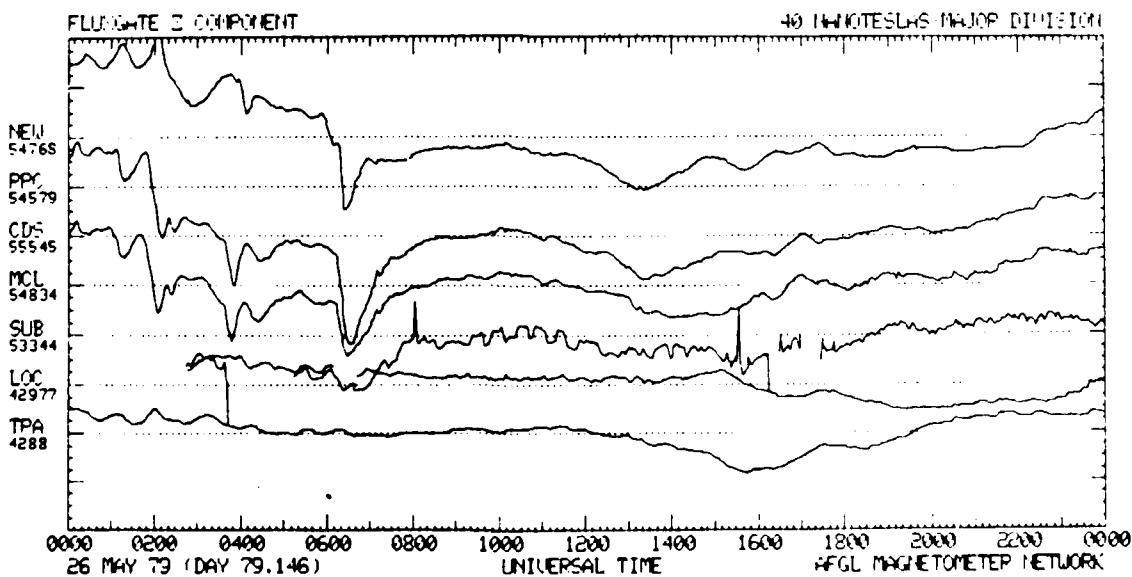
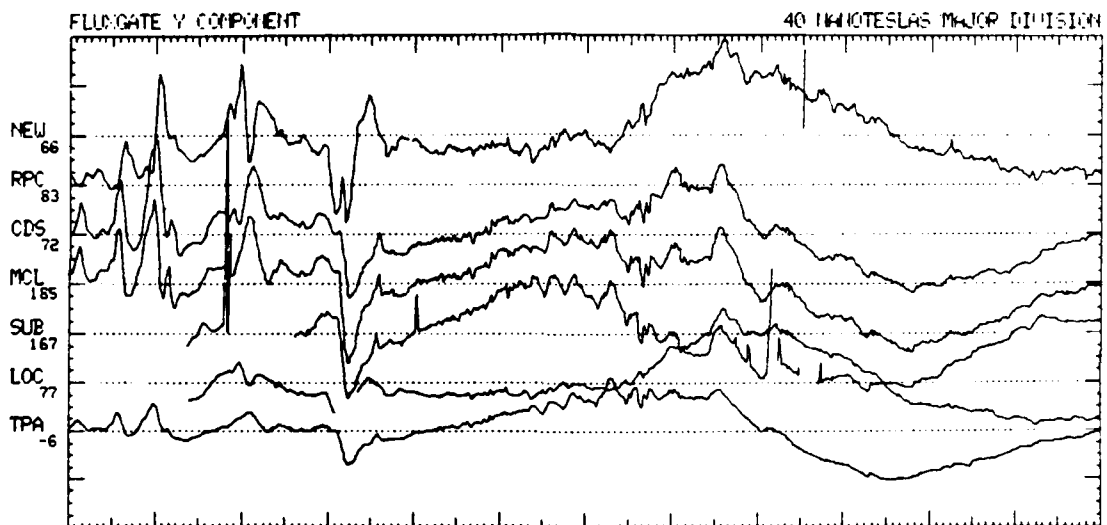
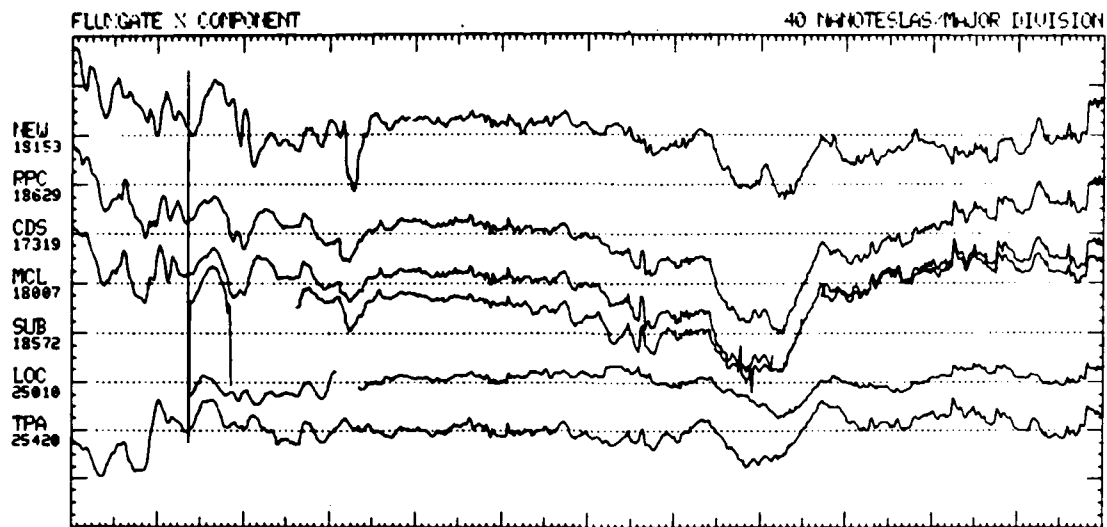
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23 MAY 79 (DAY 79.14)

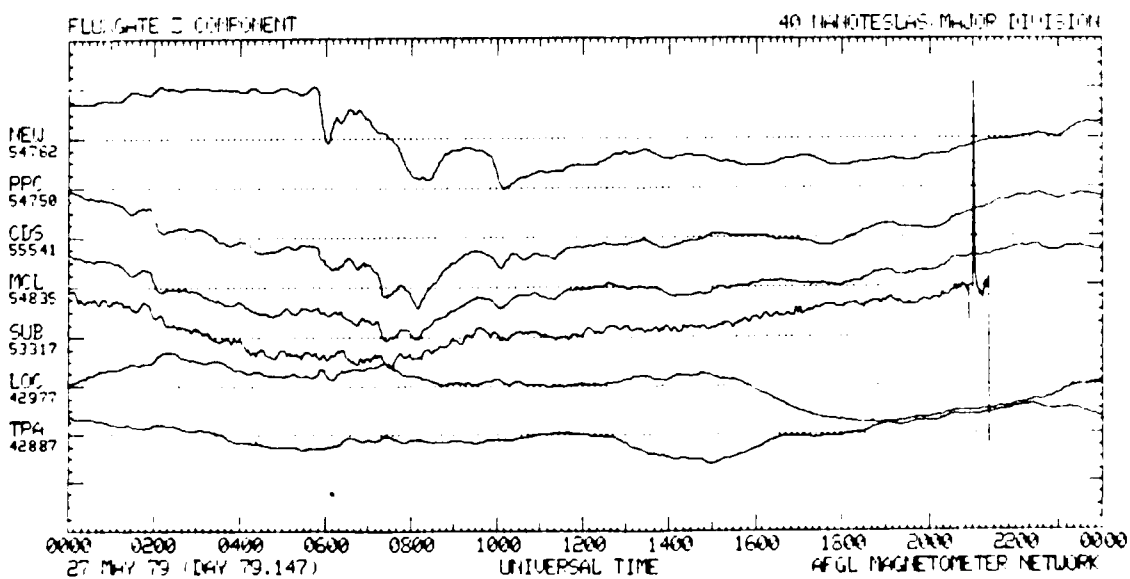
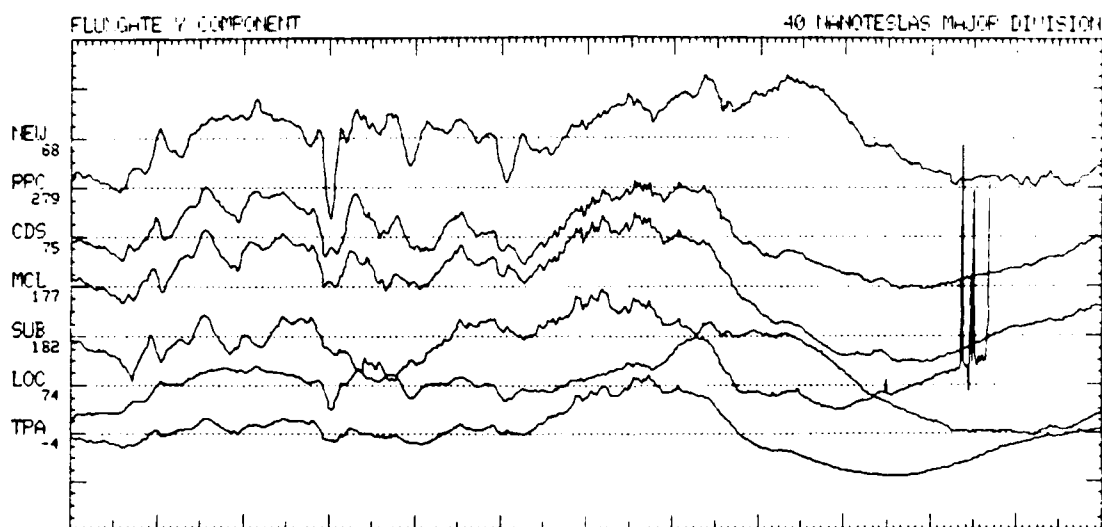
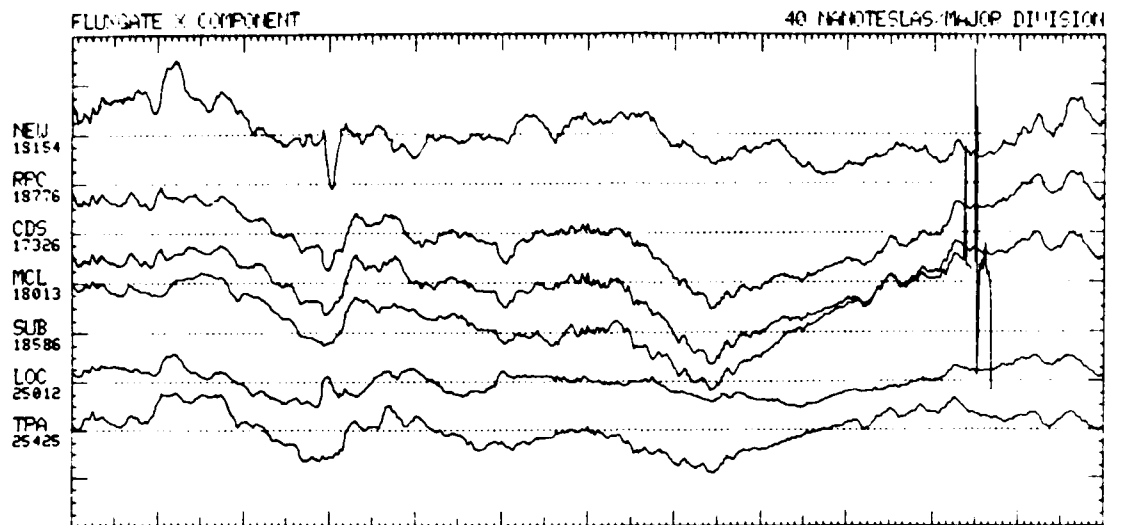
UNIVERSAL TIME

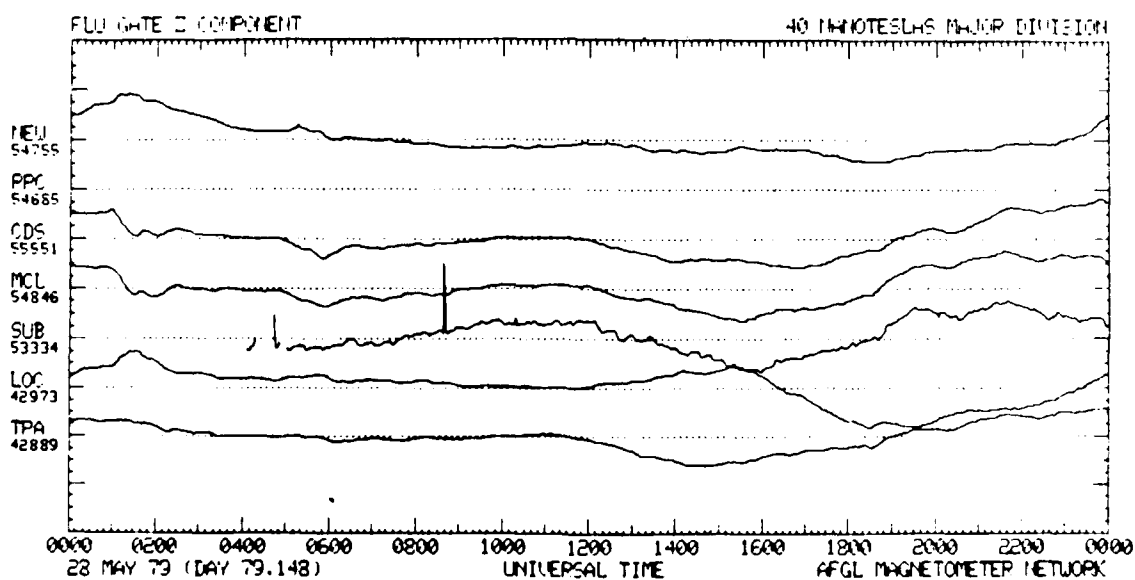
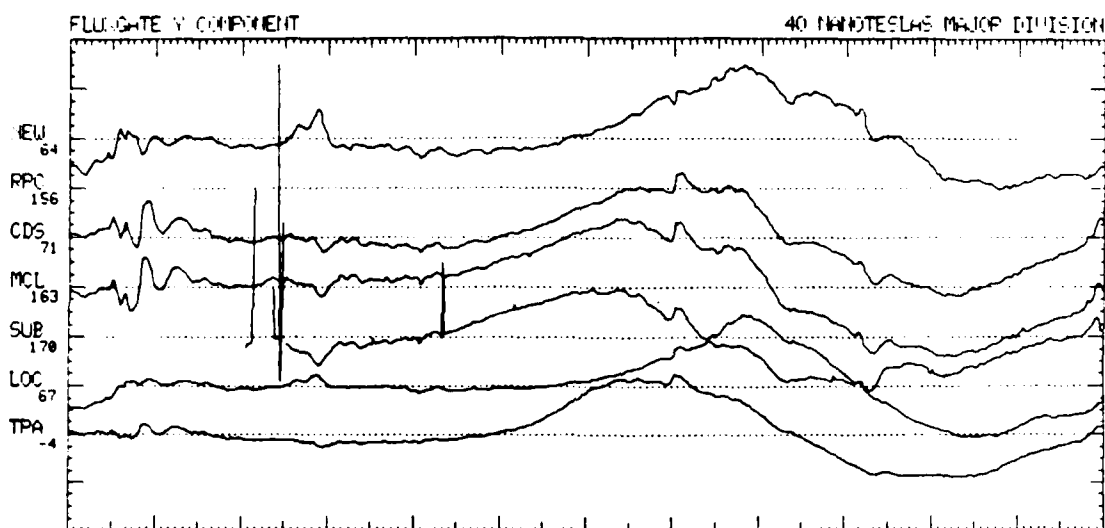
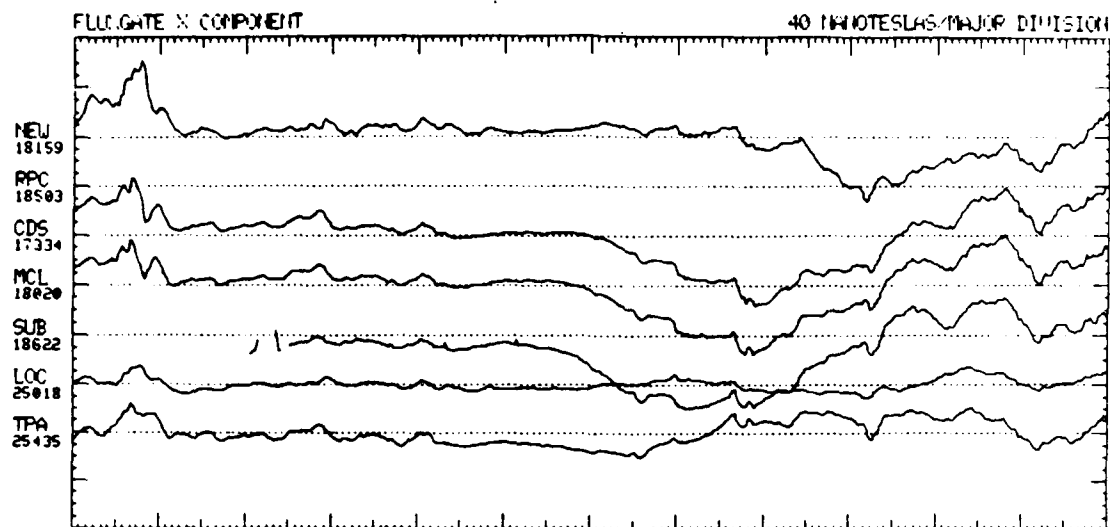
AFGL MAGNETOMETER NETWORK

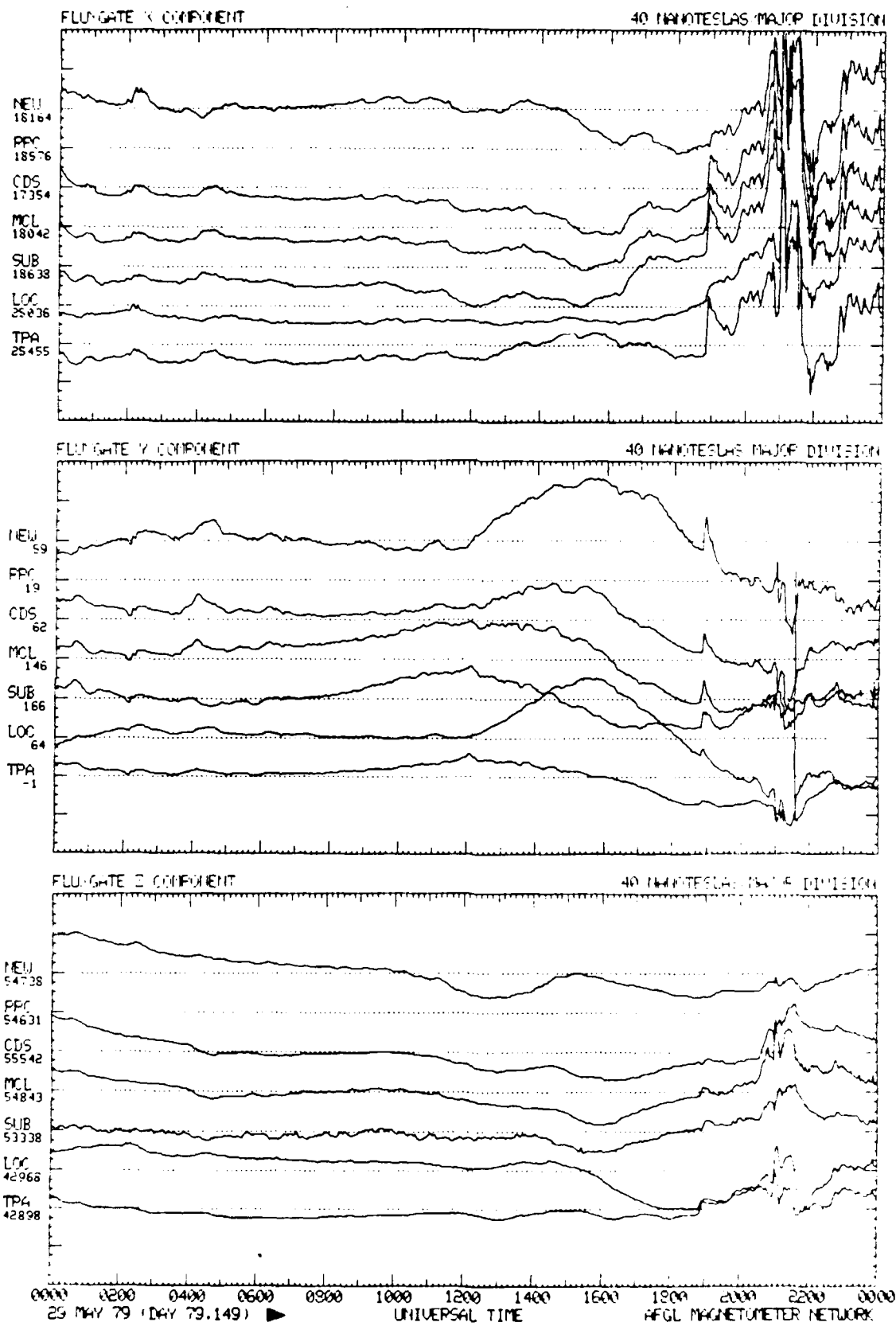


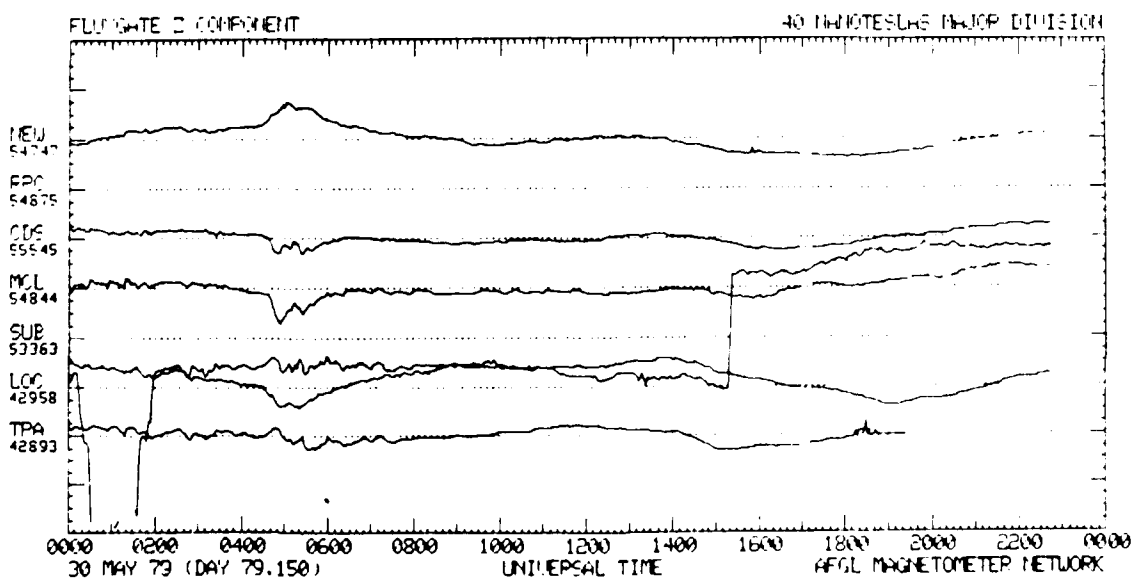
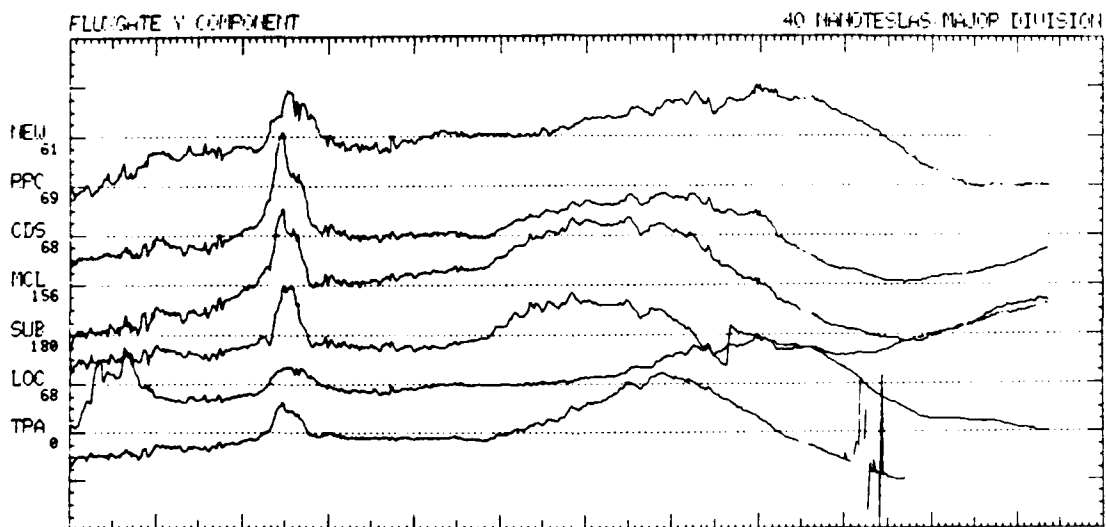
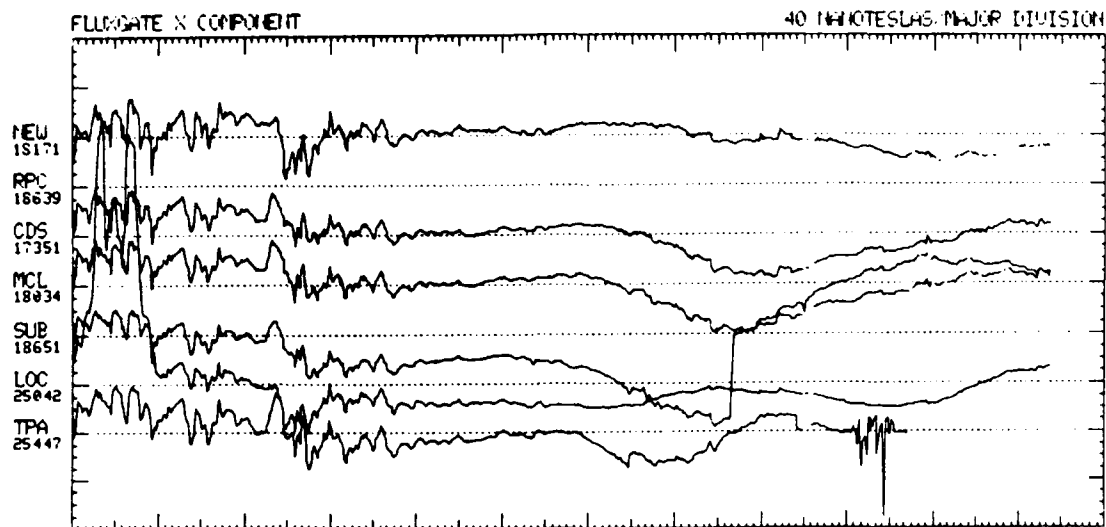


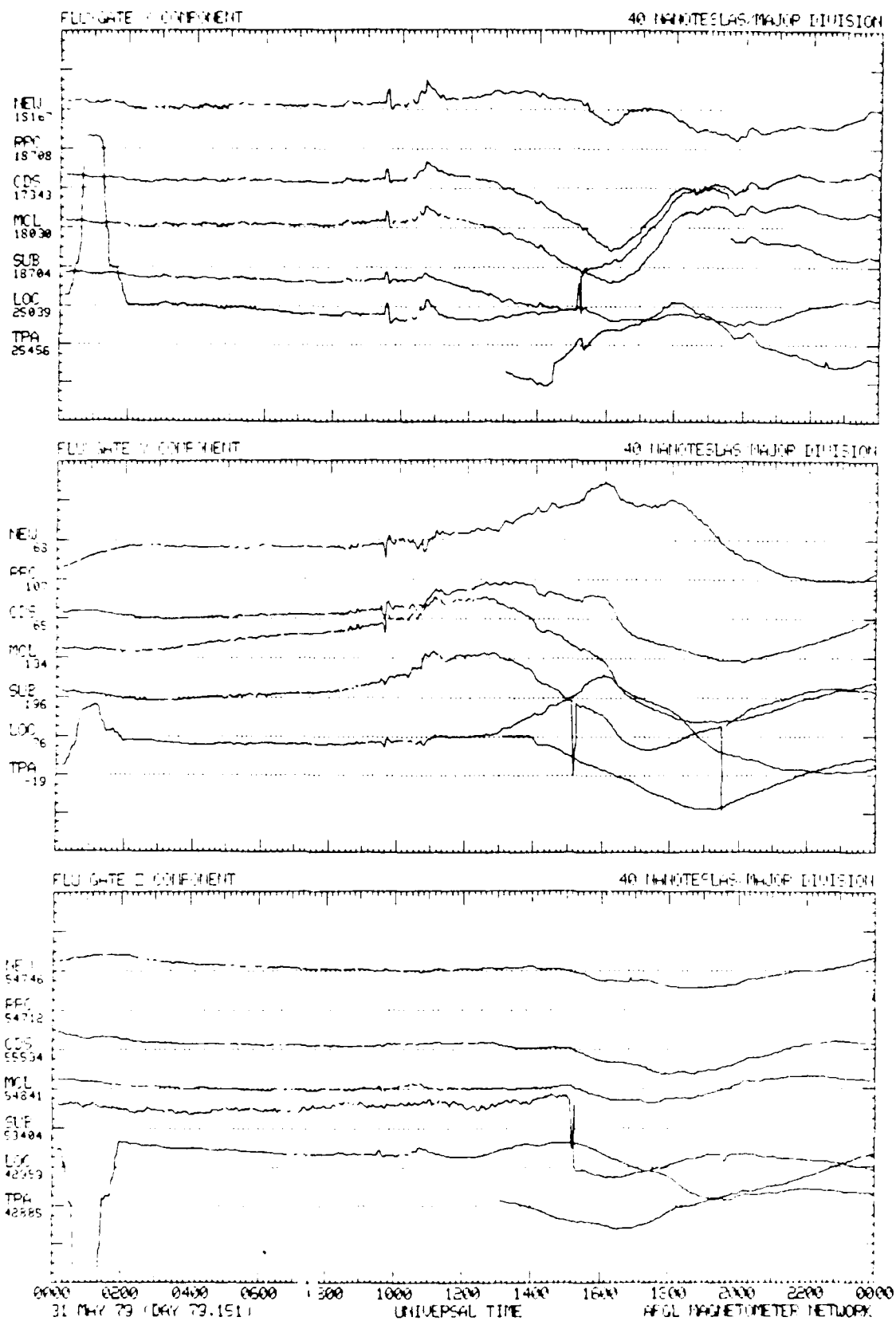


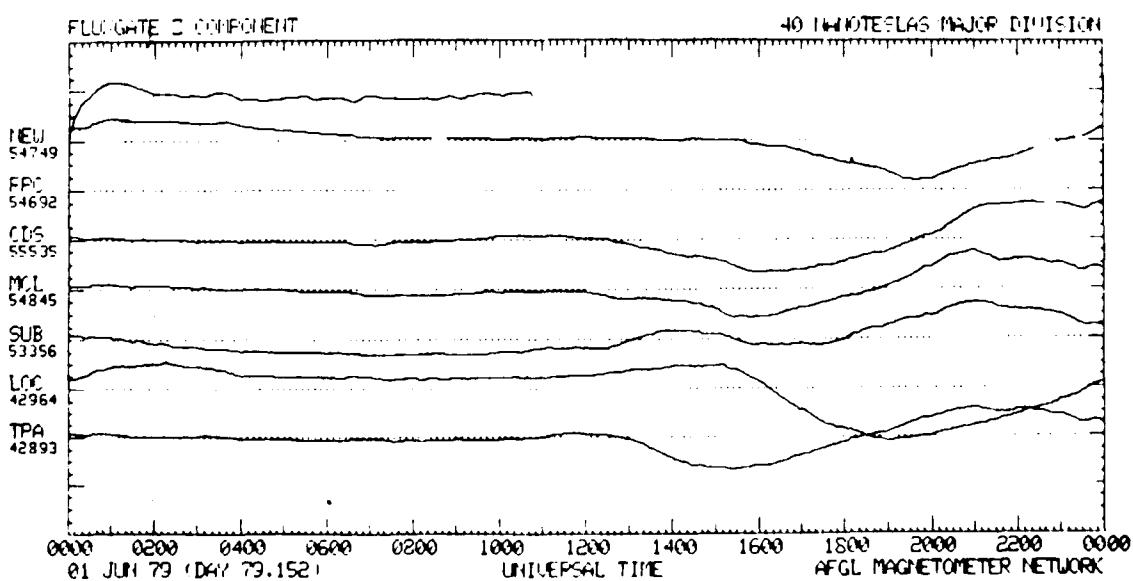
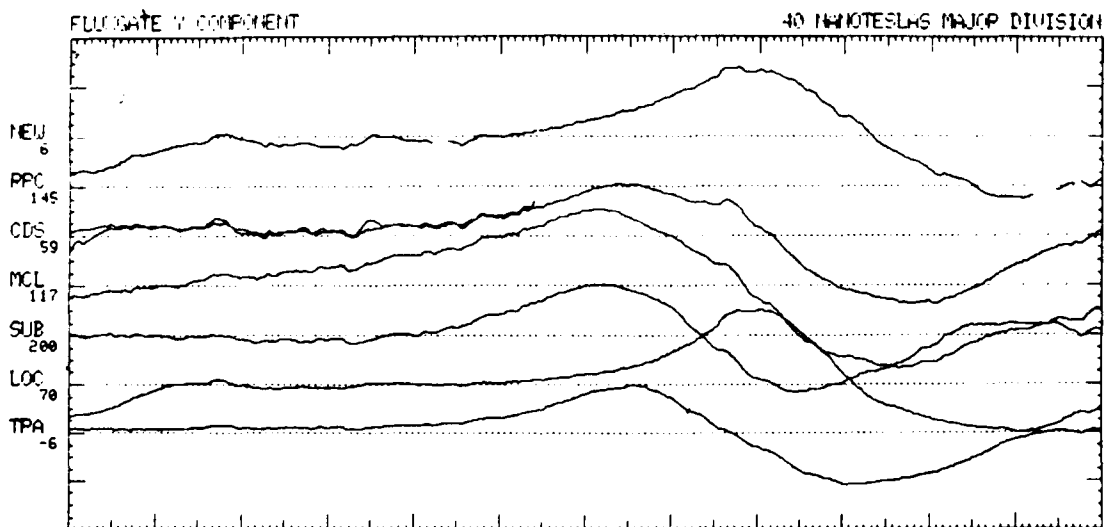
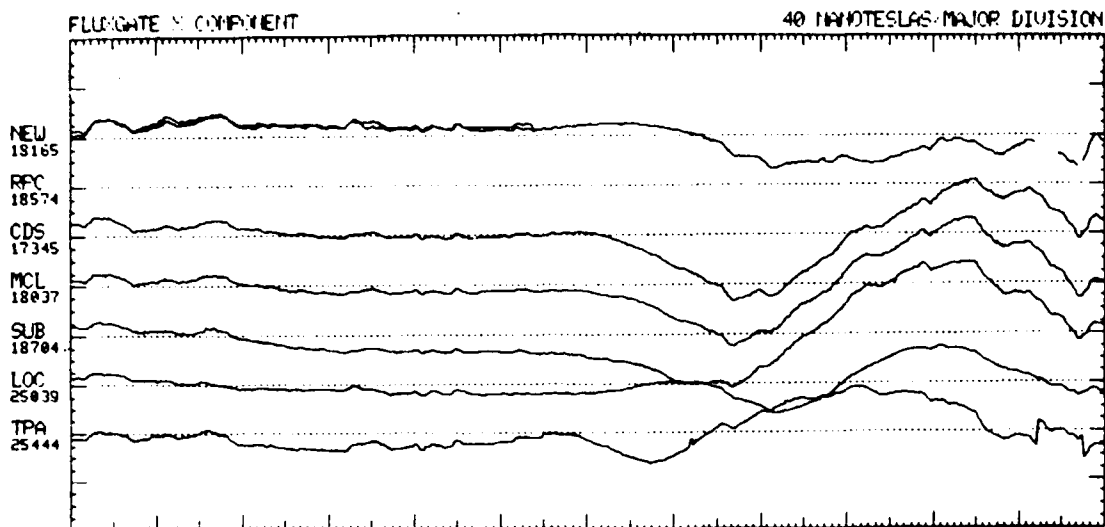






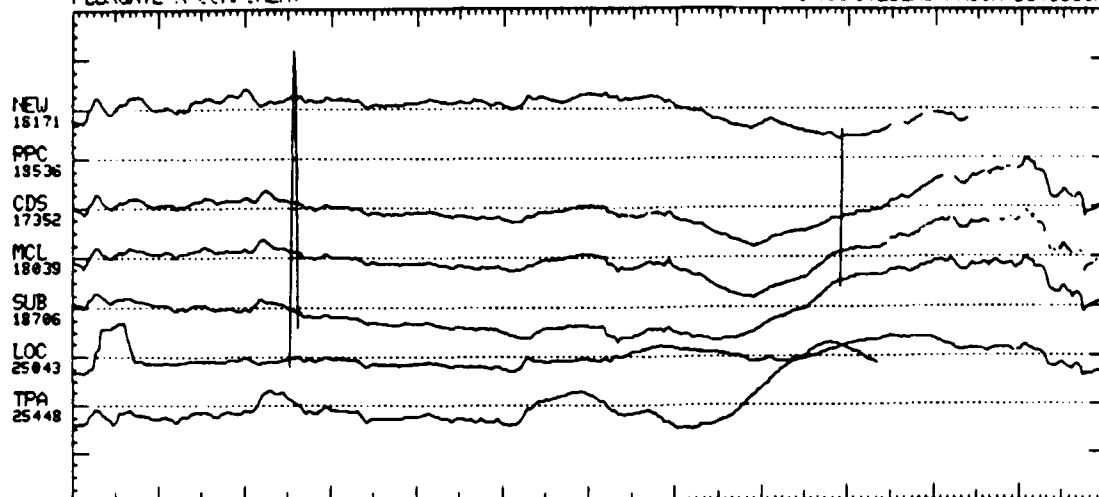






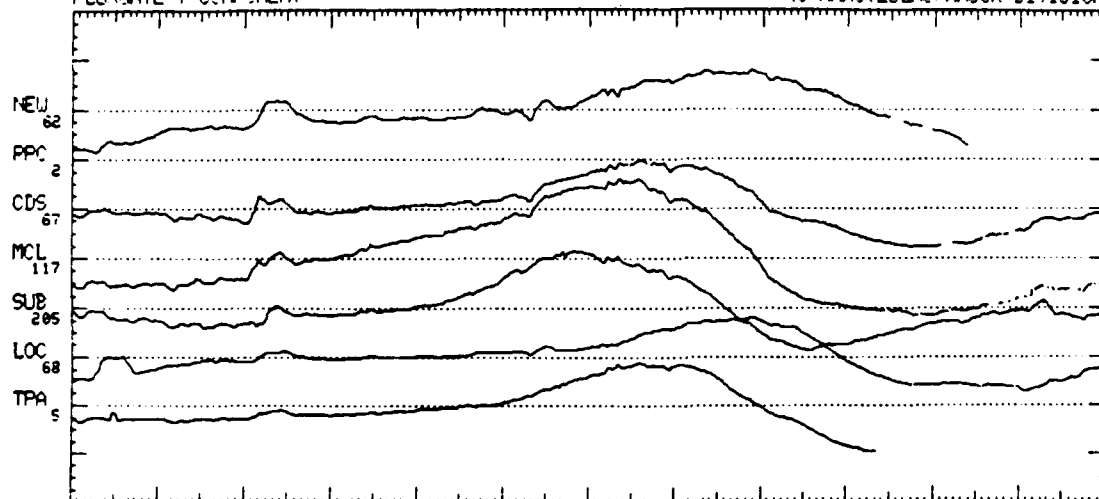
FLIGHT X COMPONENT

40 NANOTESLAS/MAJOR DIVISION



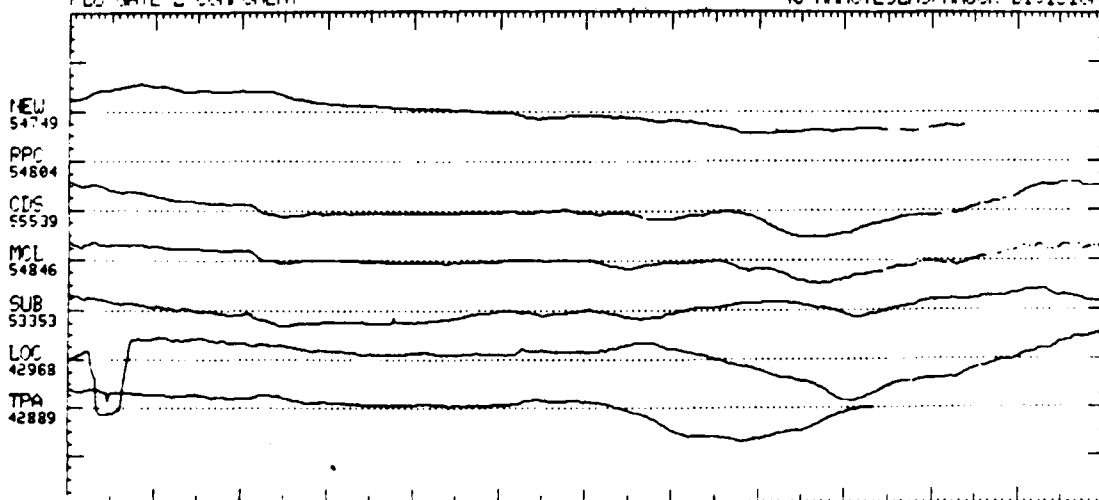
FLIGHT Y COMPONENT

40 NANOTESLAS/MAJOR DIVISION

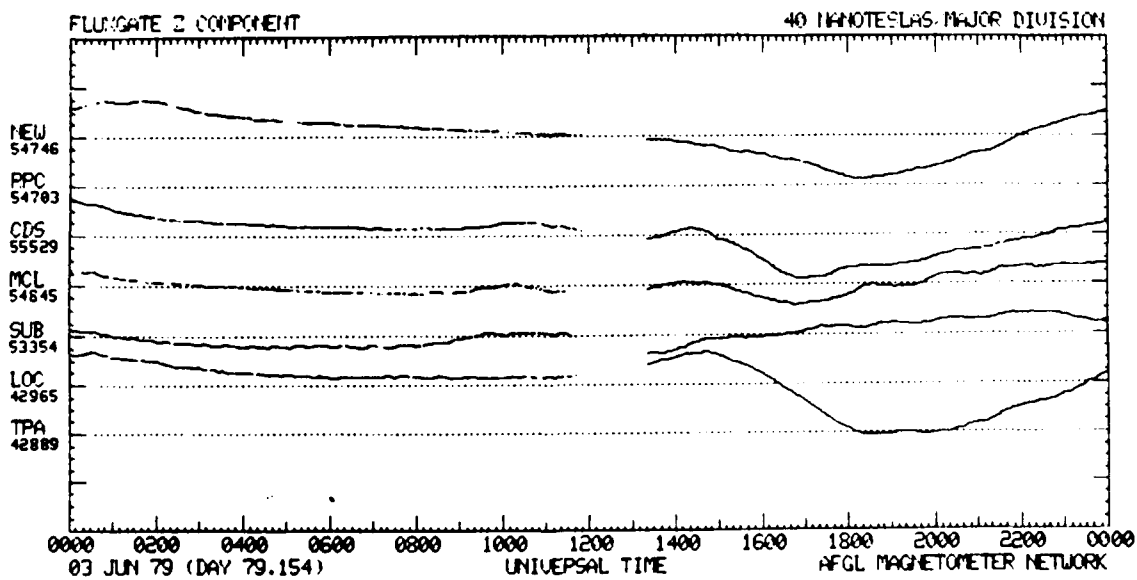
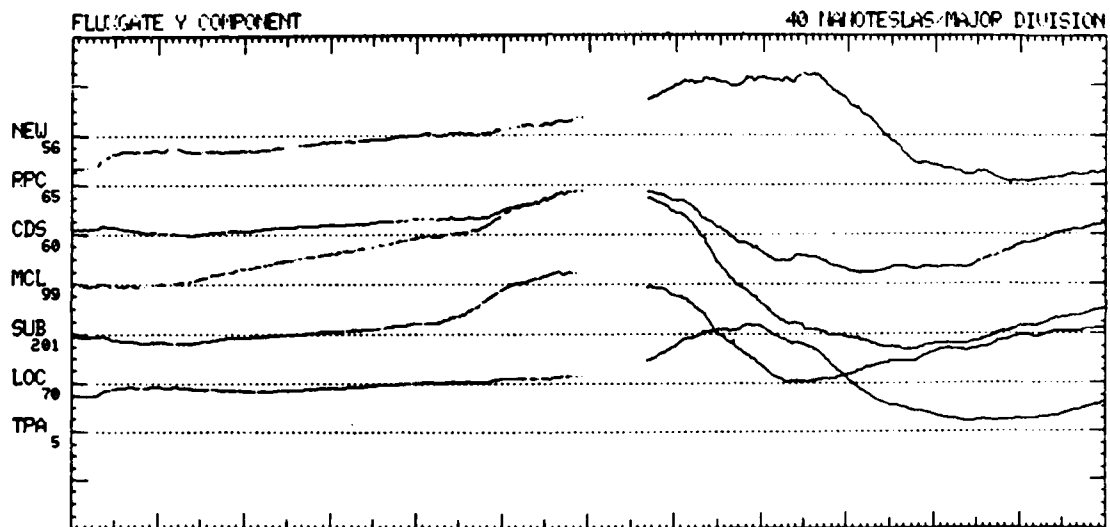
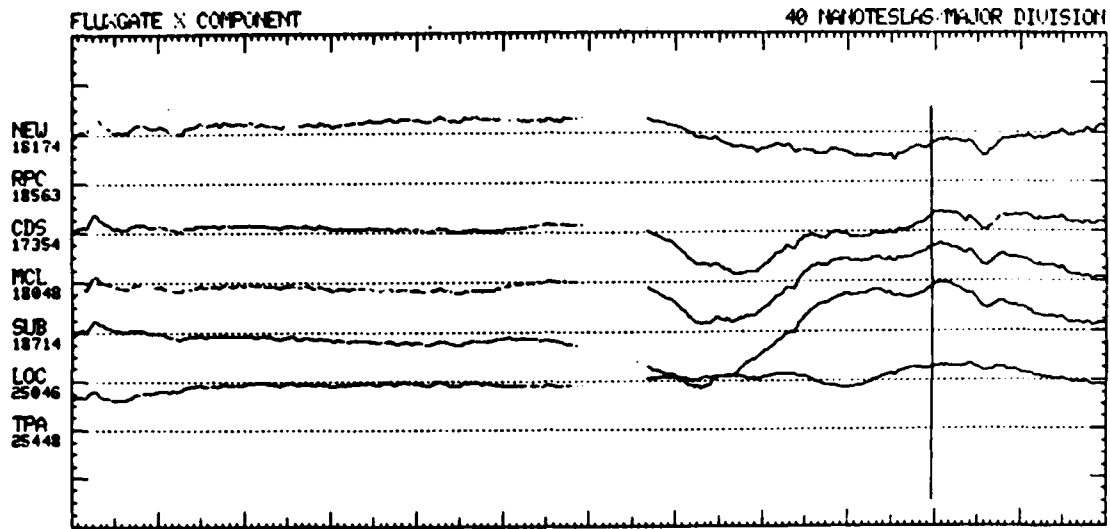


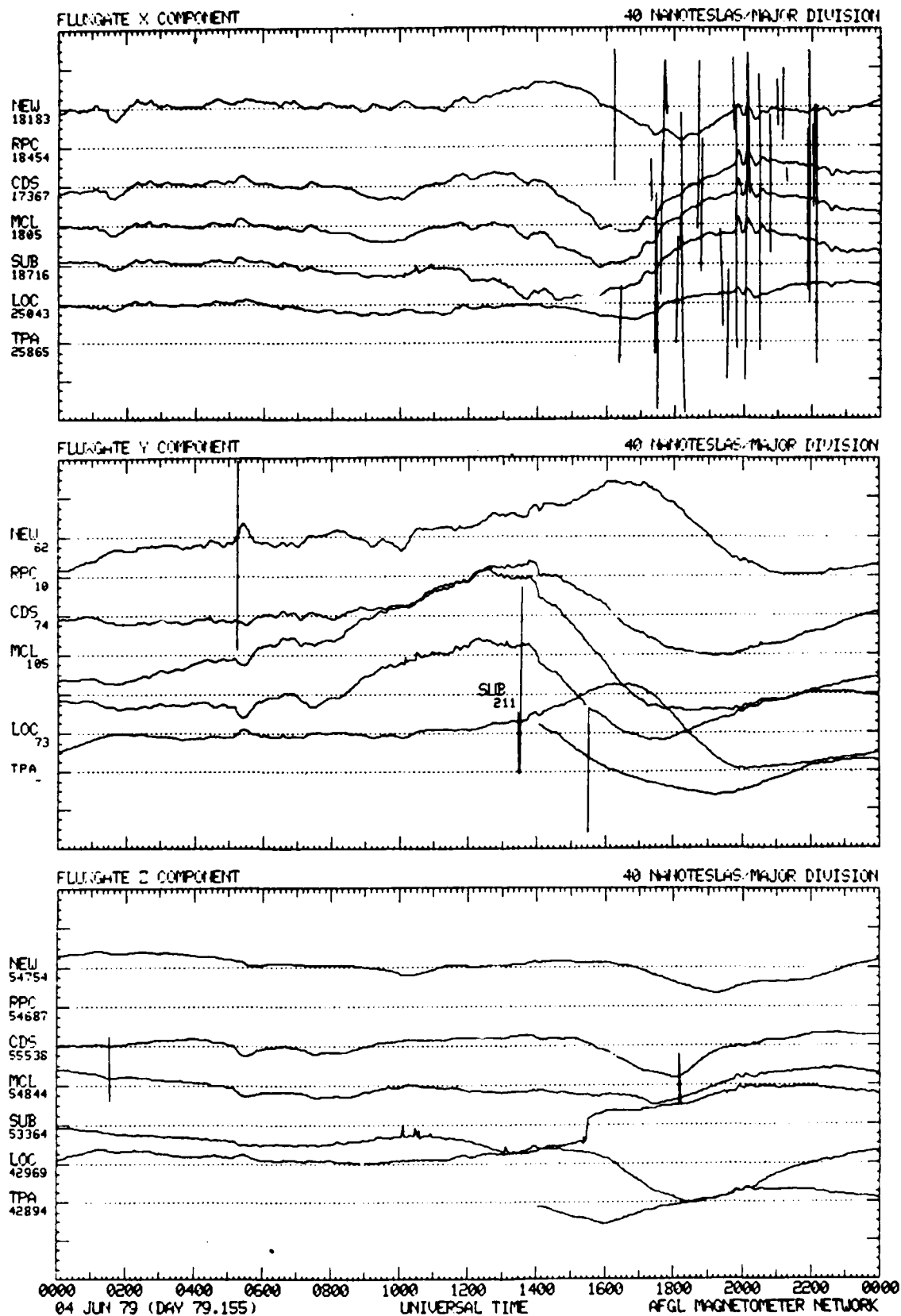
FLIGHT Z COMPONENT

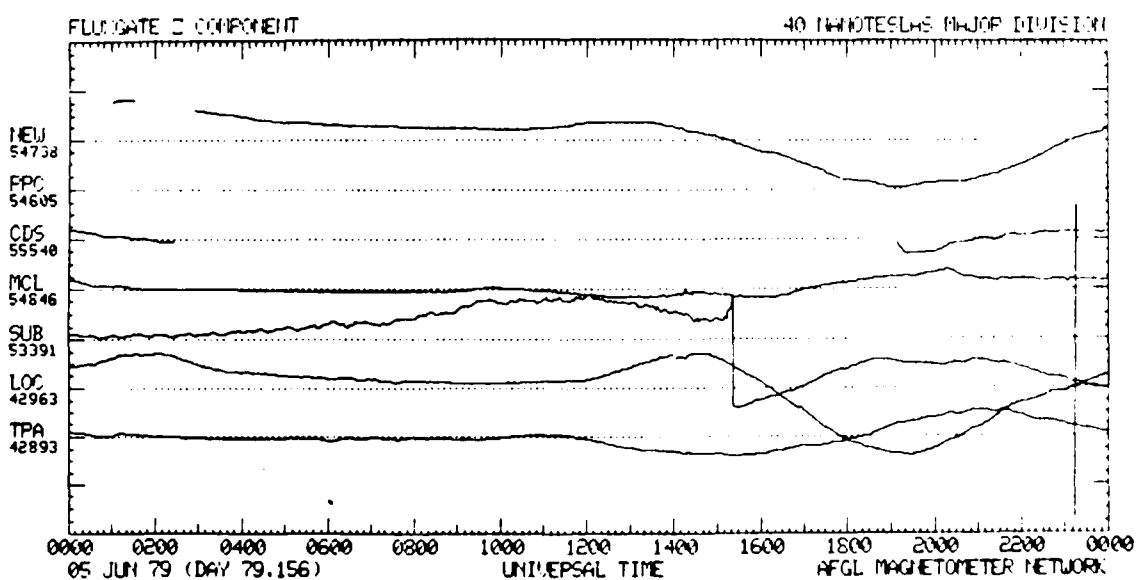
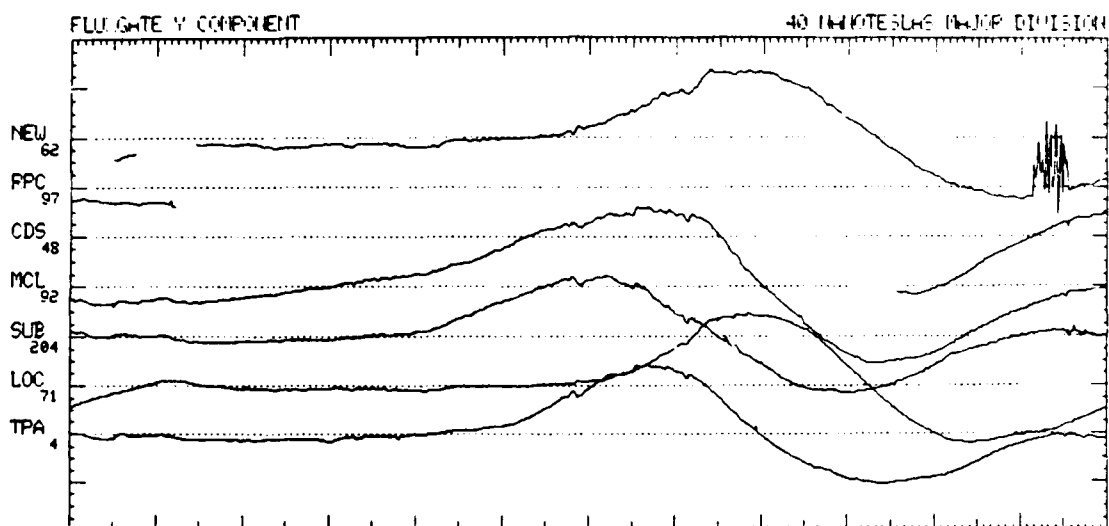
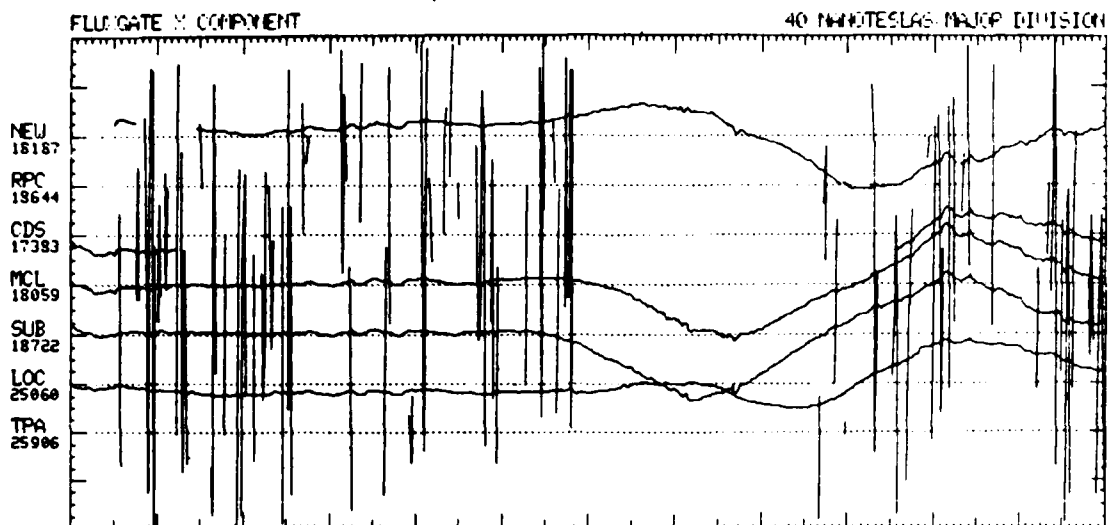
40 NANOTESLAS/MAJOR DIVISION

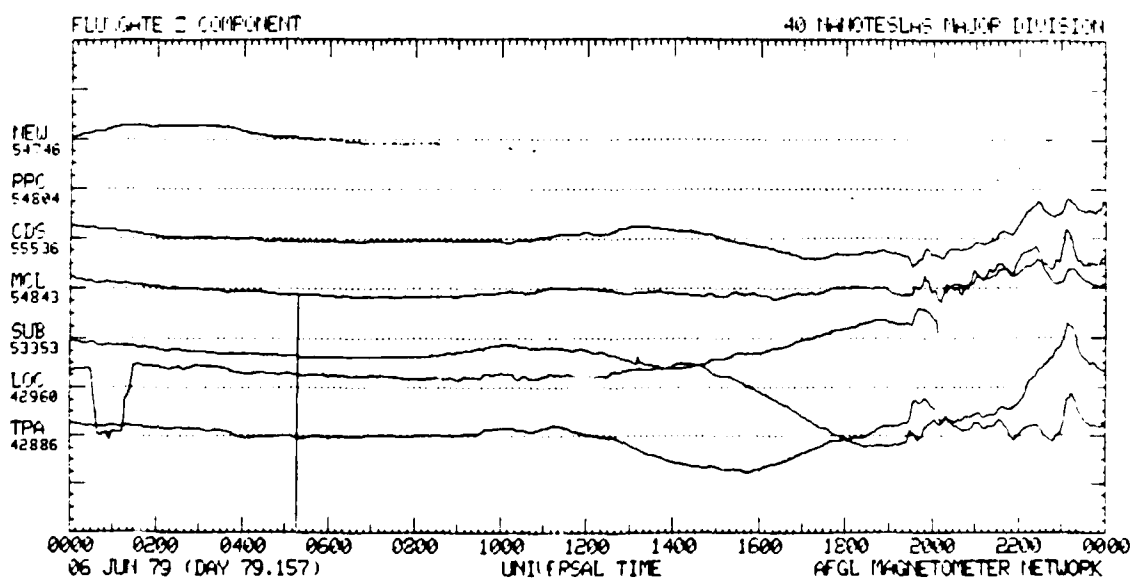
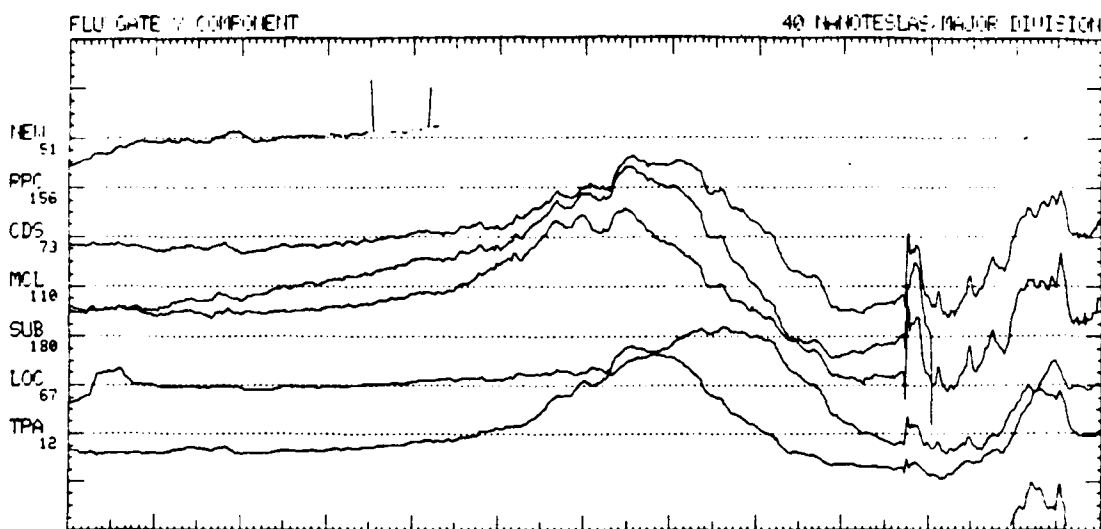
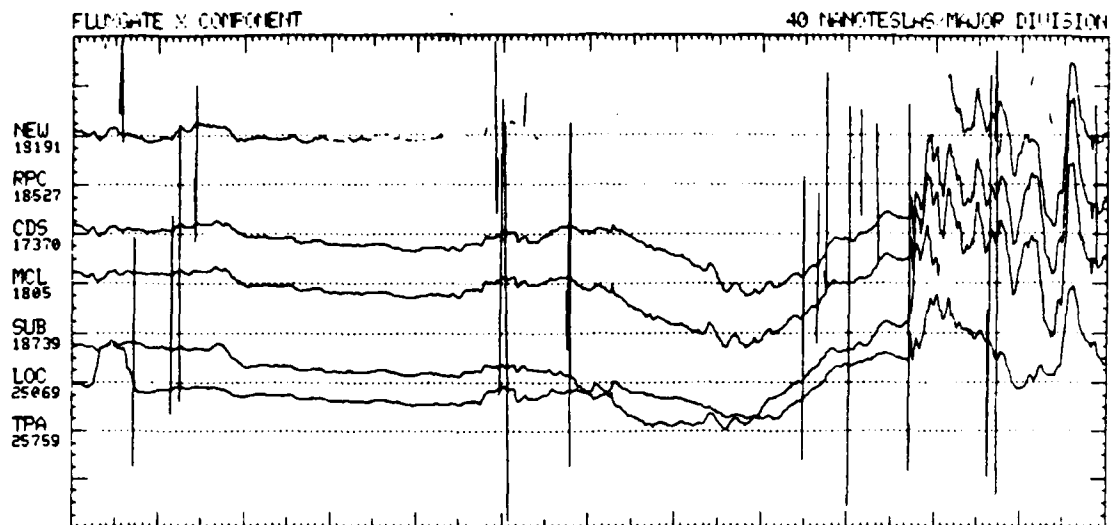


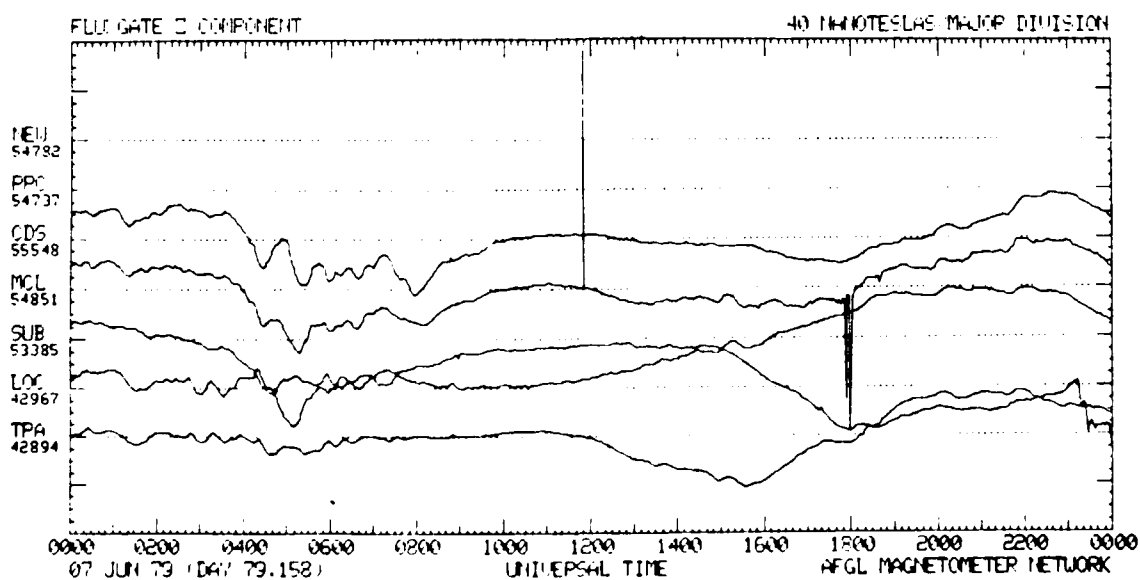
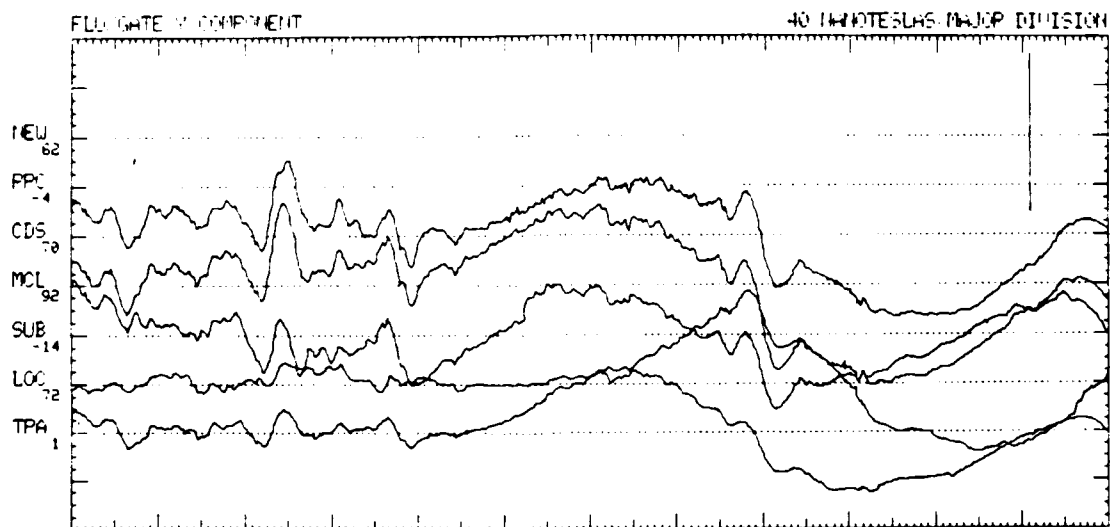
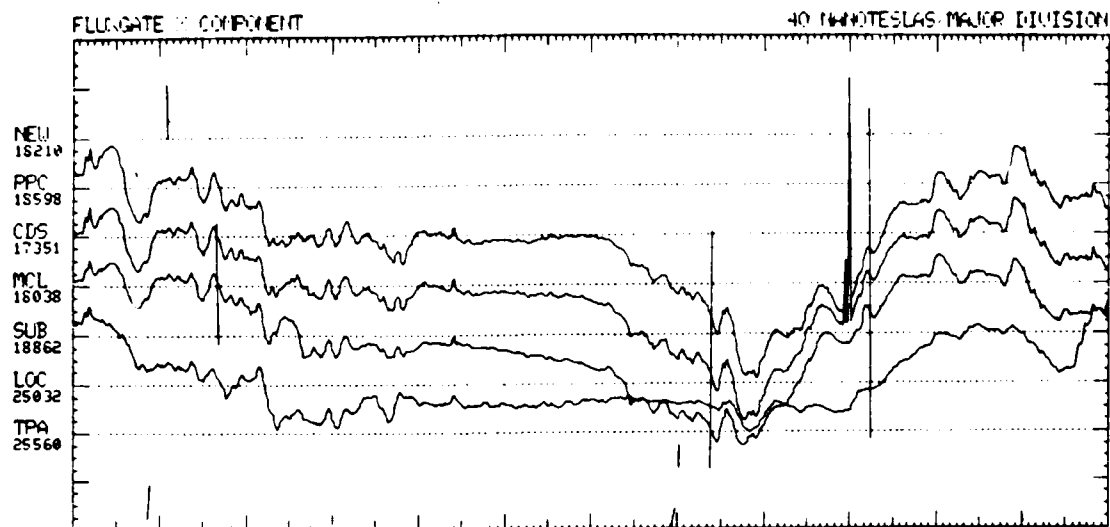
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02 JUN 79 (DAY 79.153) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

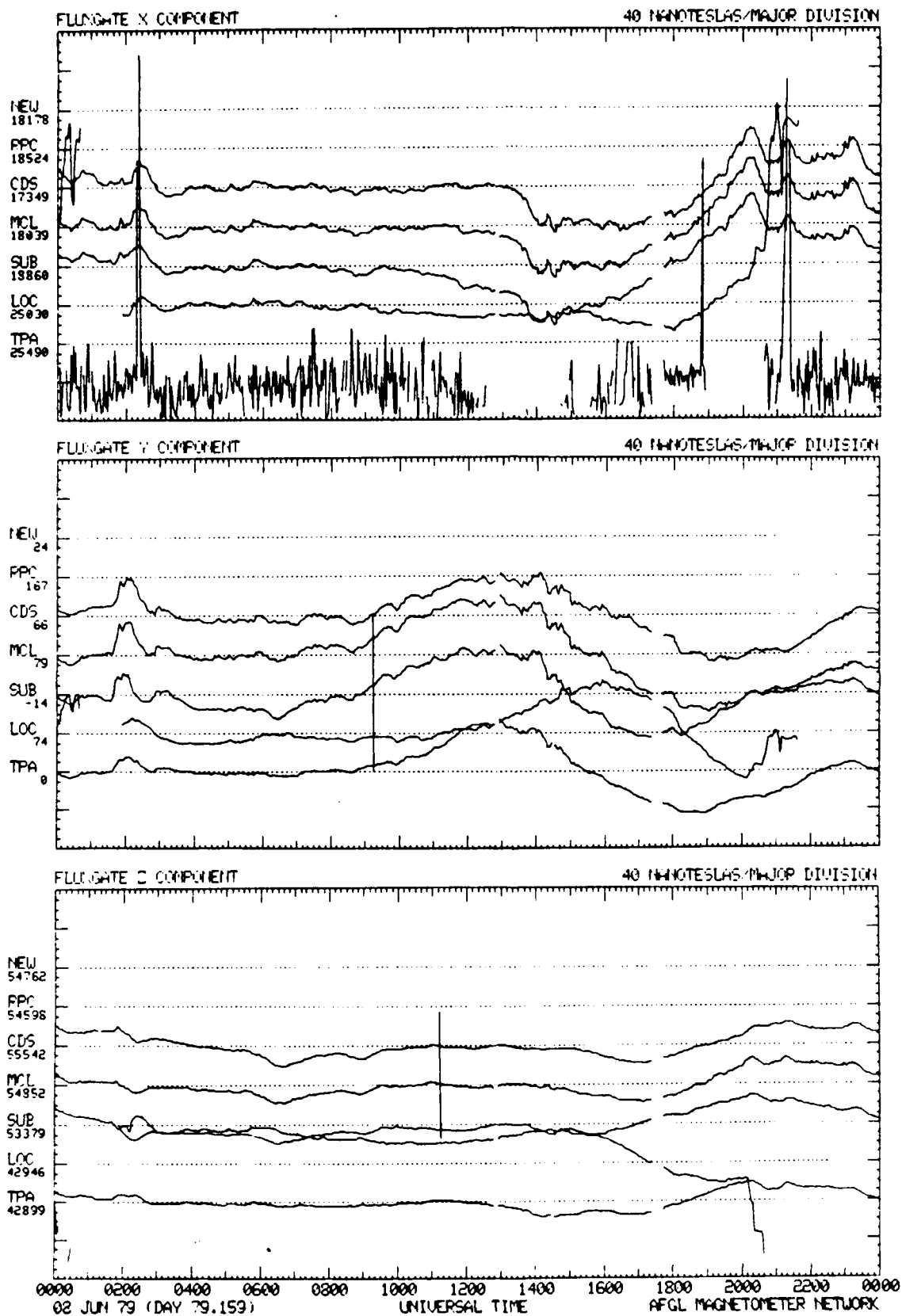


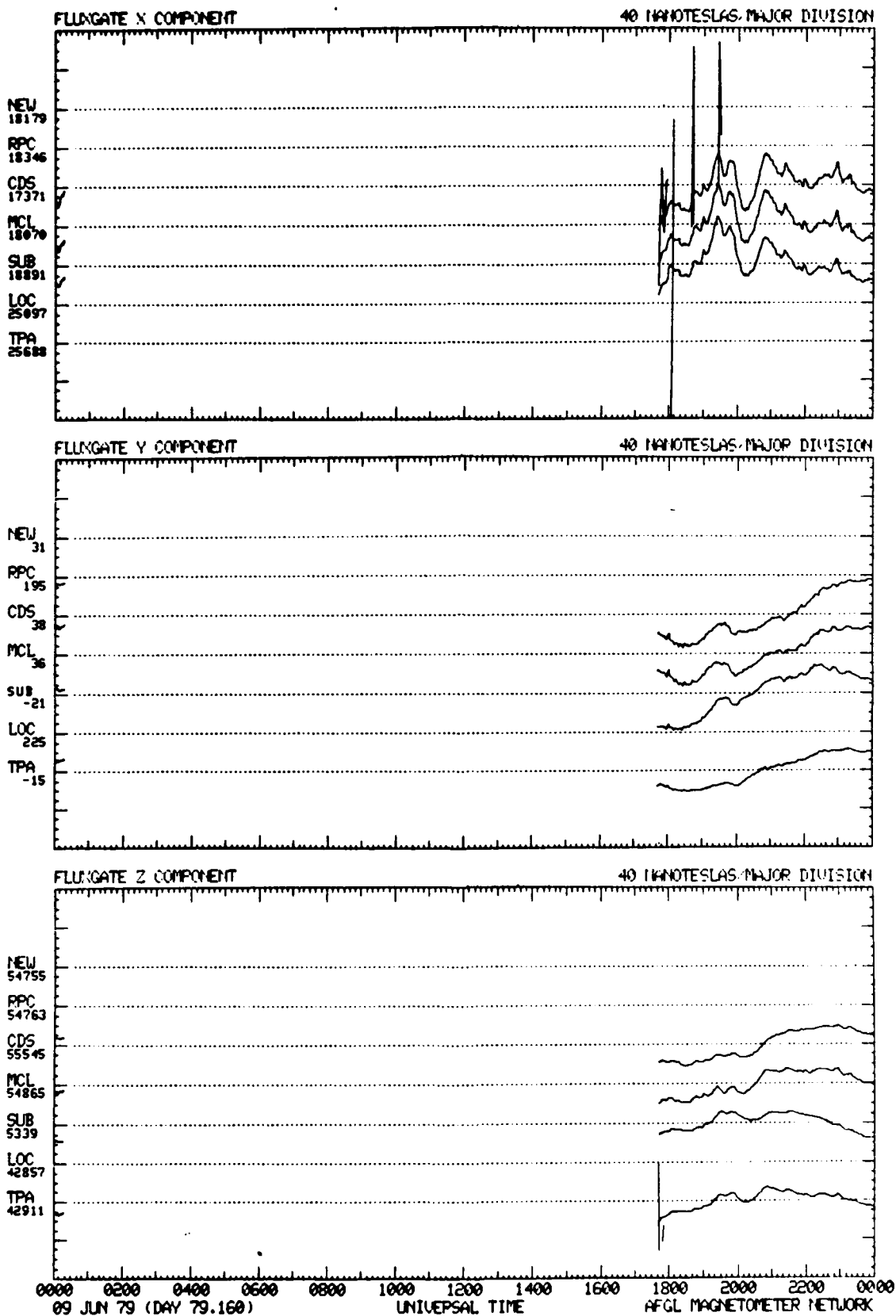


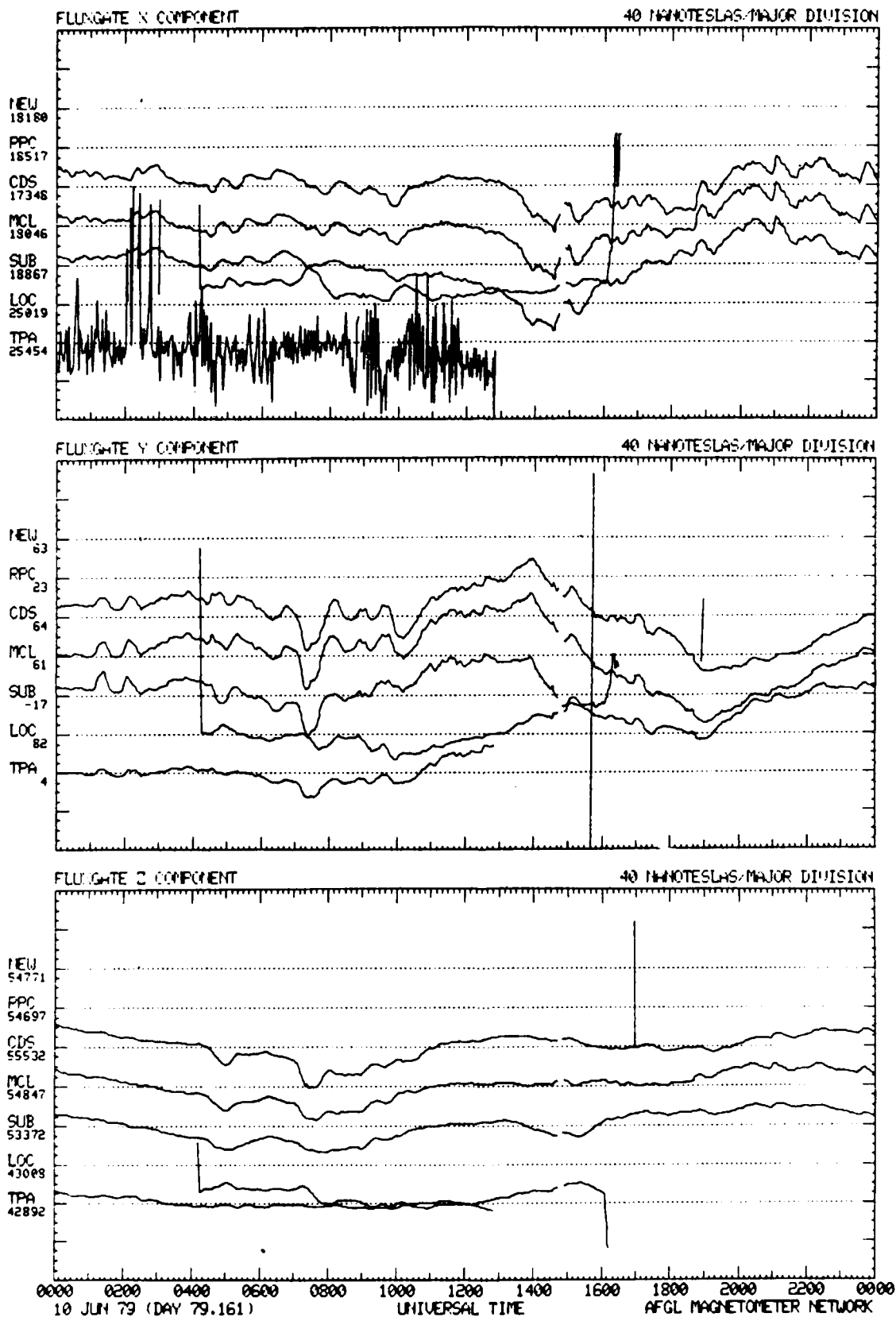


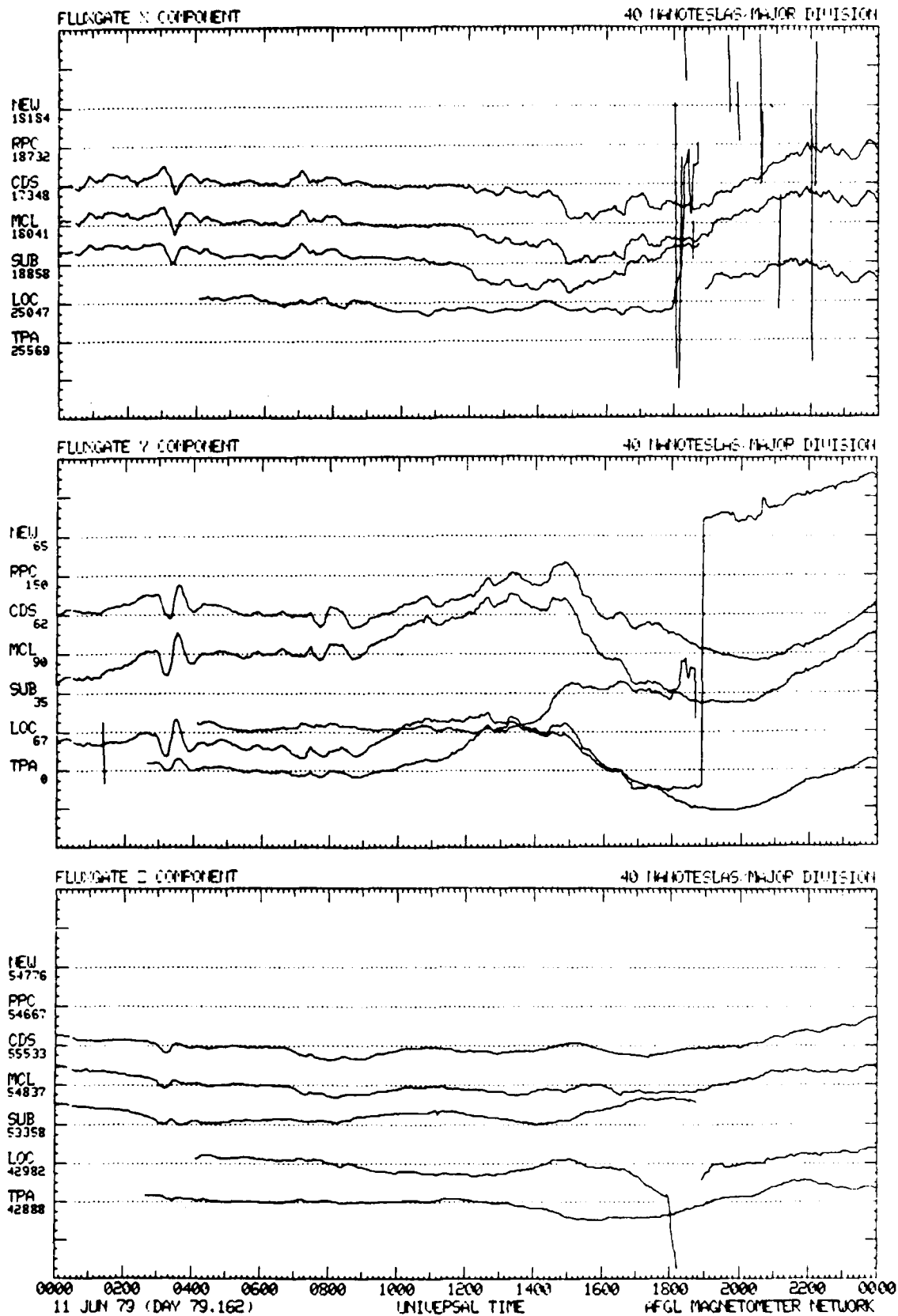


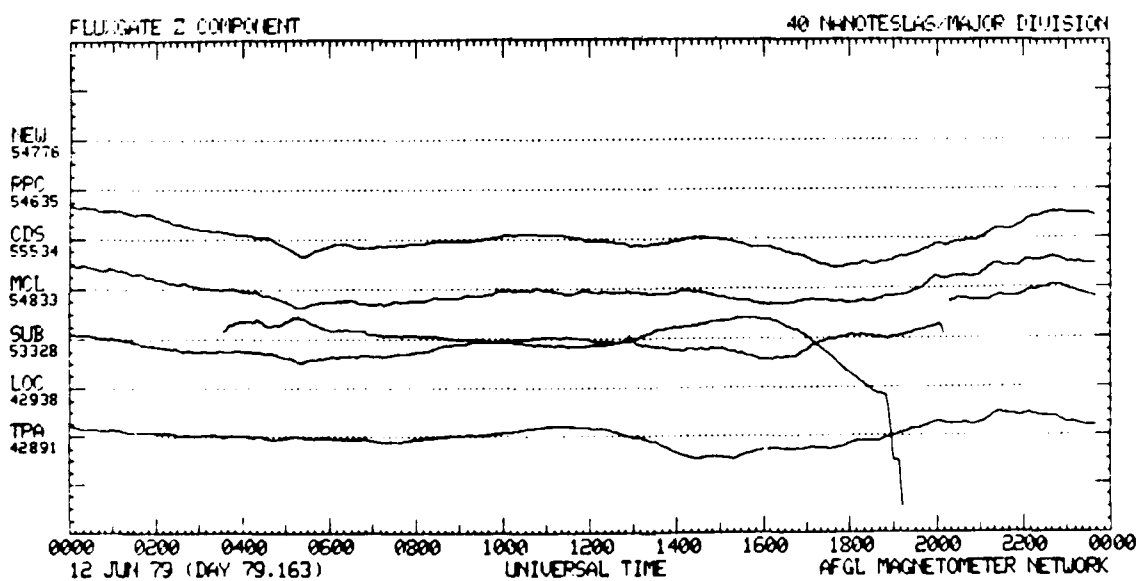
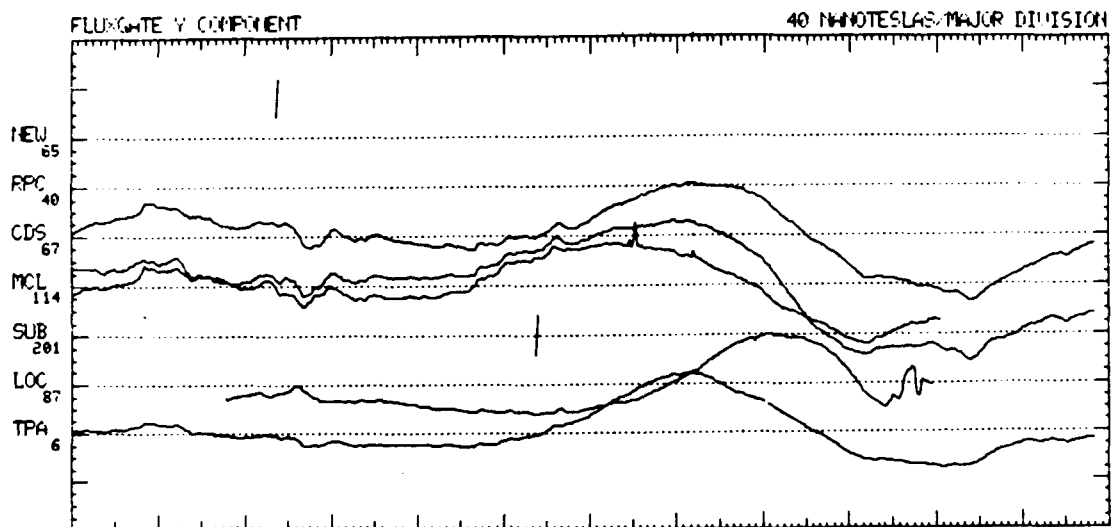
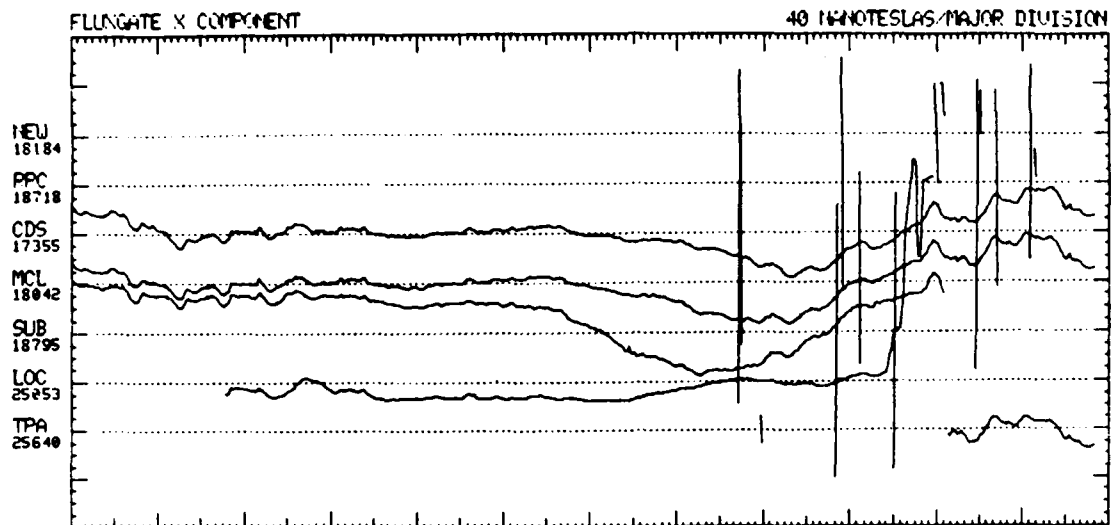


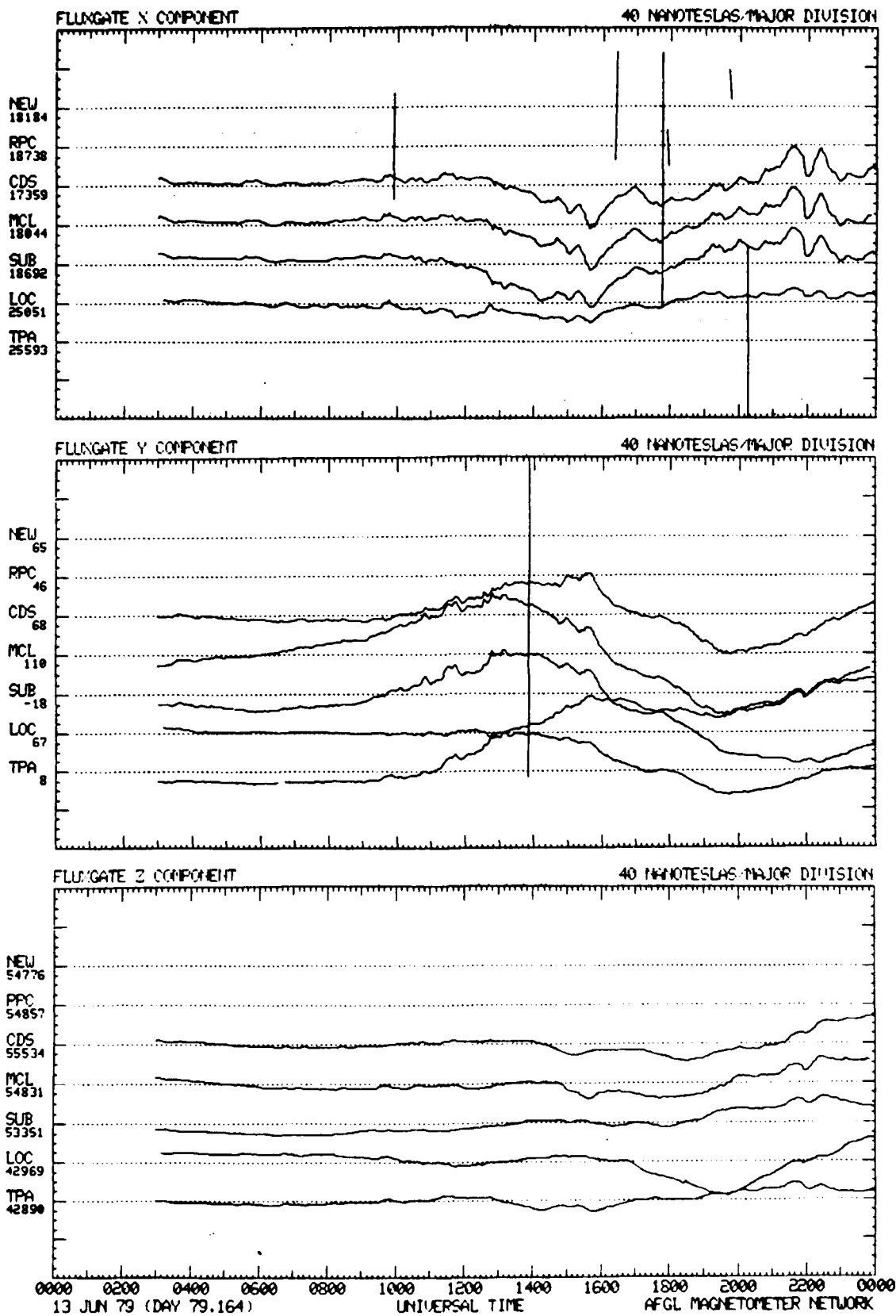


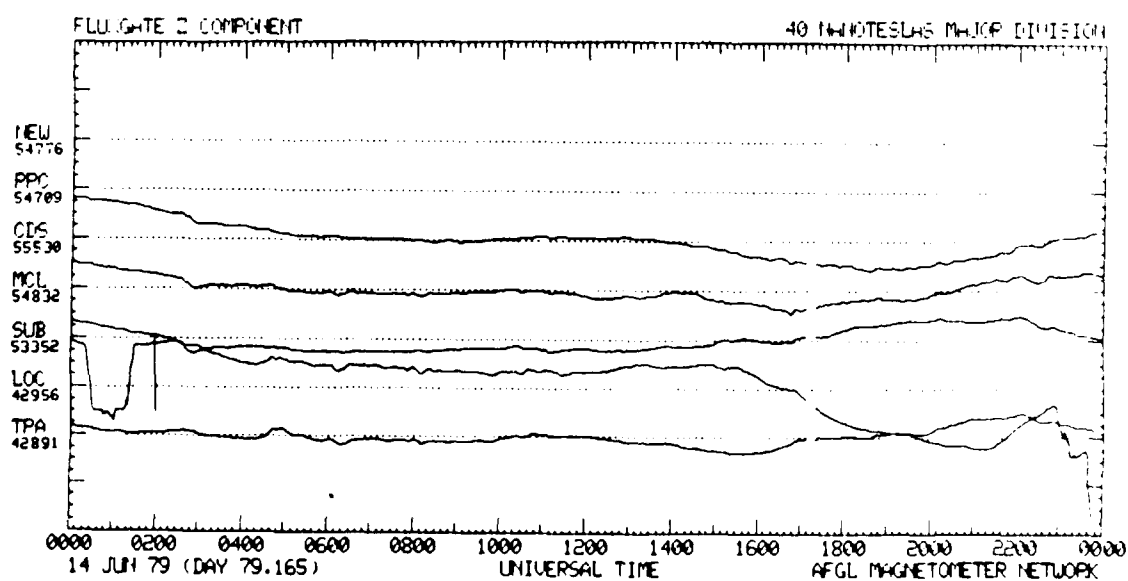
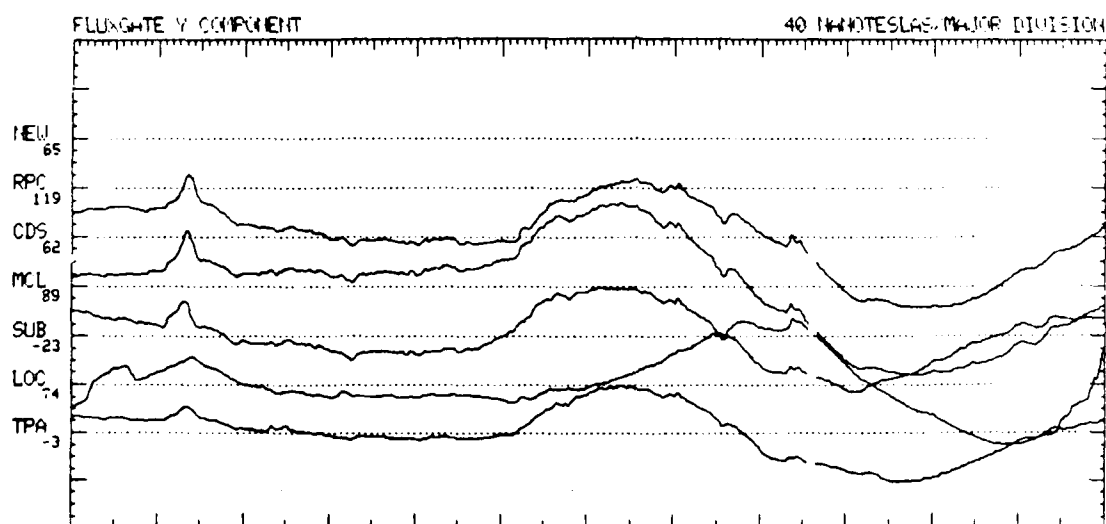
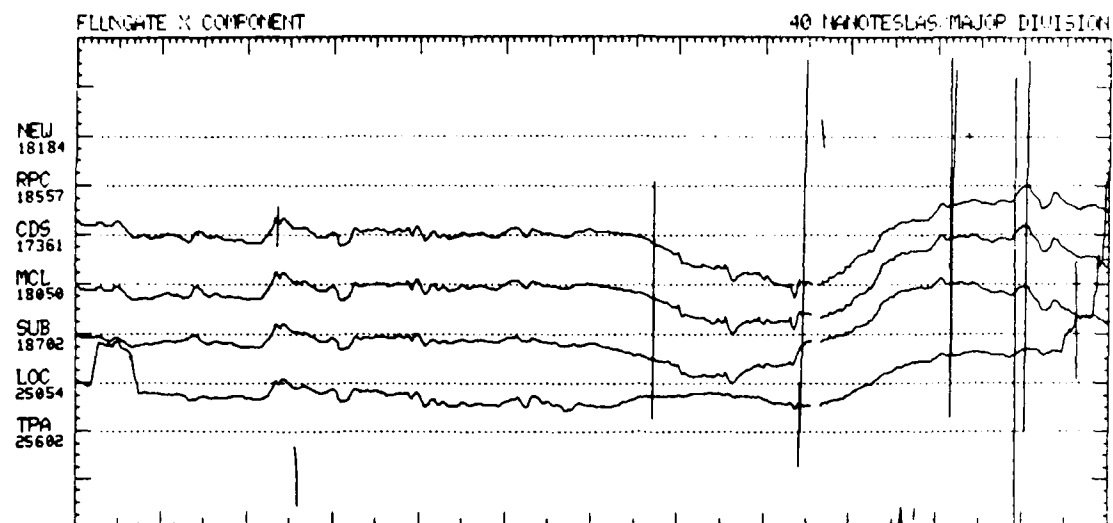


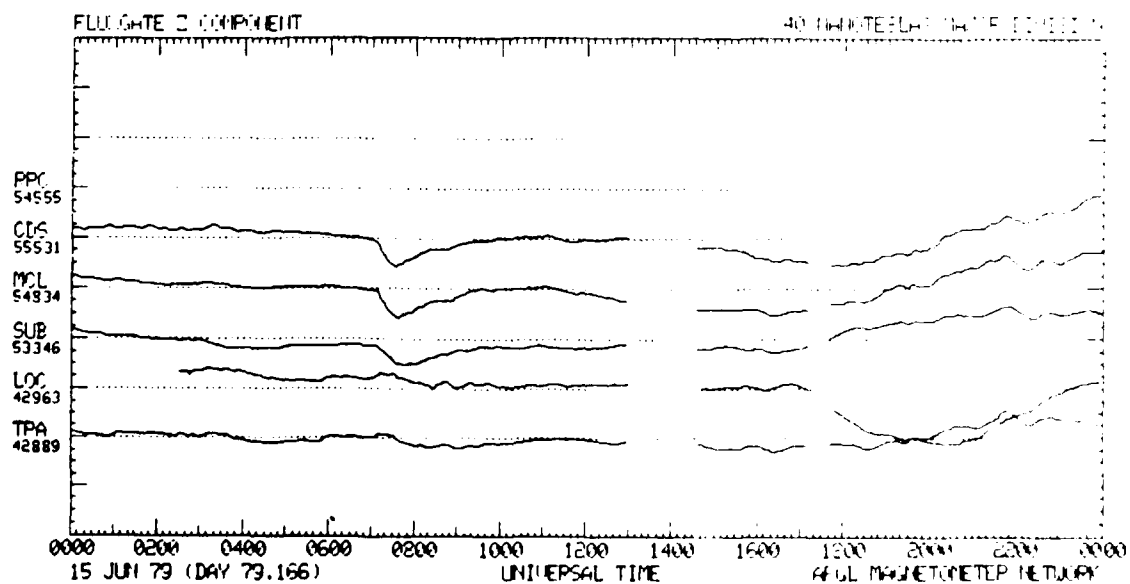
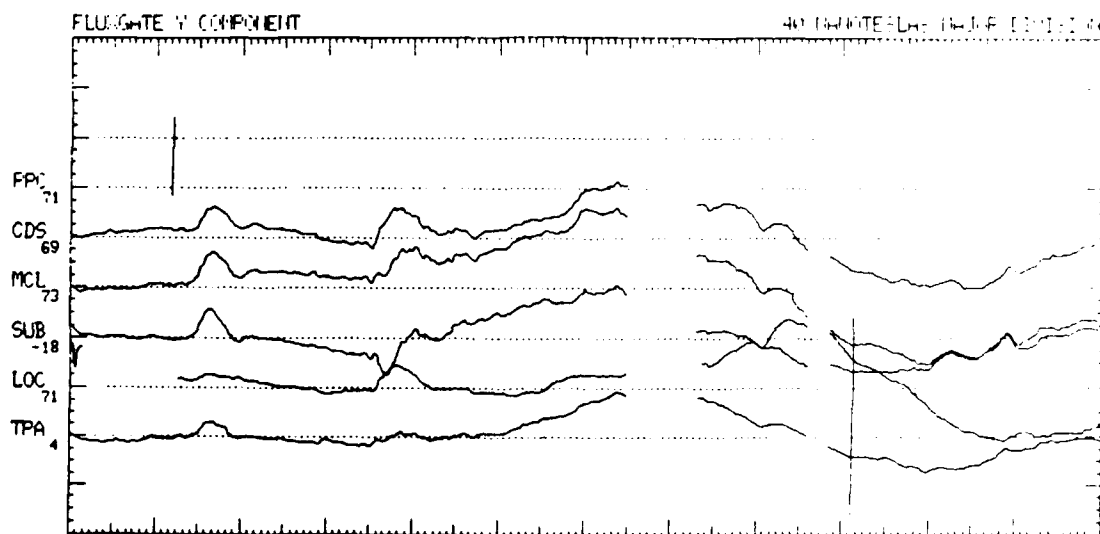
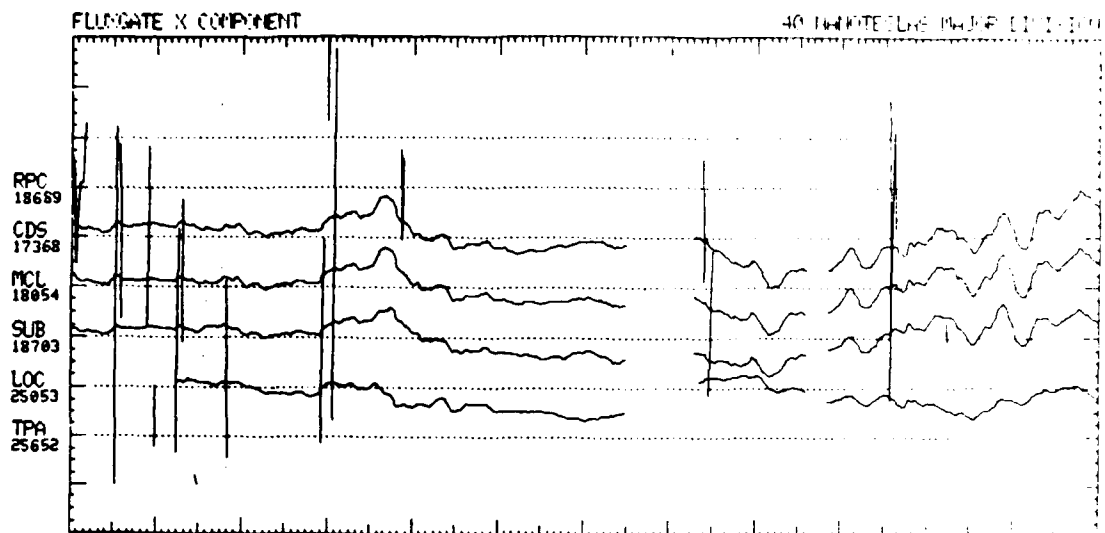








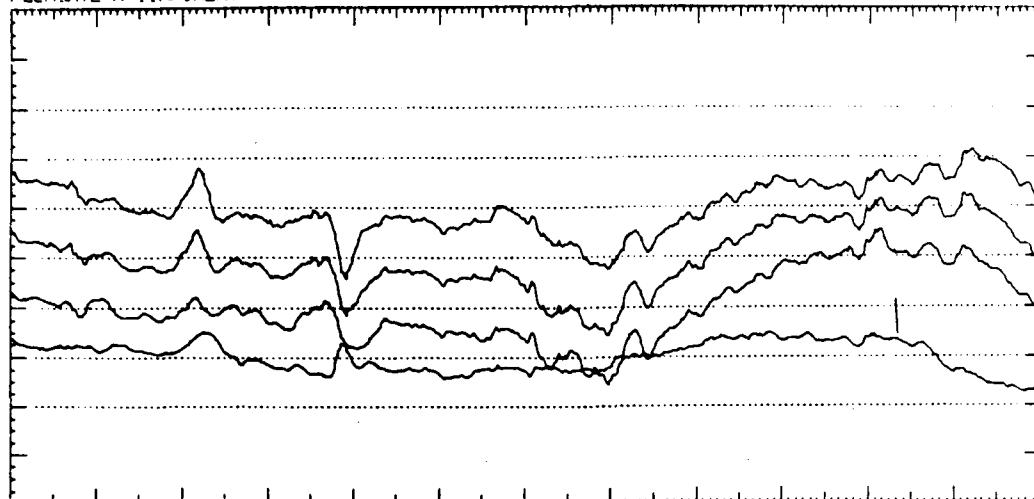




FLIGHTLINE X COMPONENT

40 NANOTESLAH MAJOR DIVISION

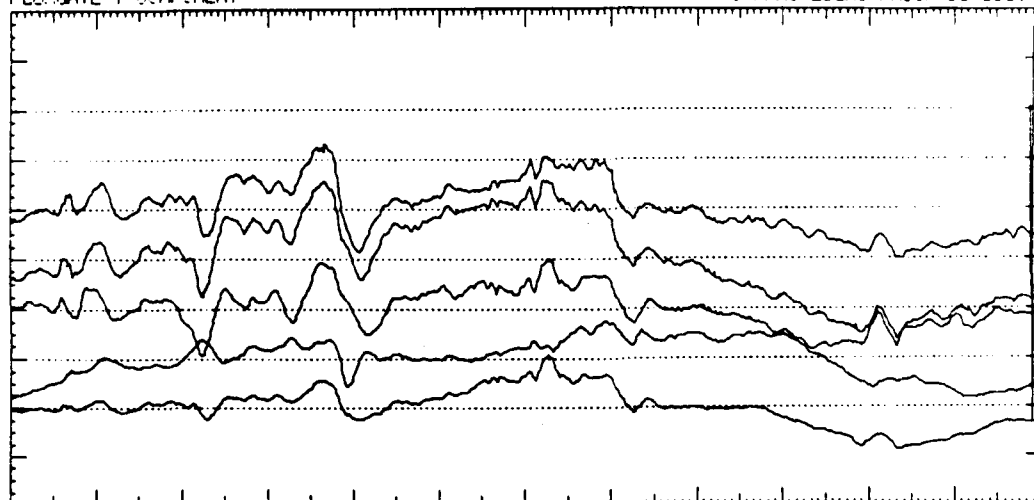
RPC
18548
CDS
17363
MCL
18951
SUB
18702
LOC
25028
TPA
25577



FLIGHTLINE Y COMPONENT

40 NANOTESLAH MAJOR DIVISION

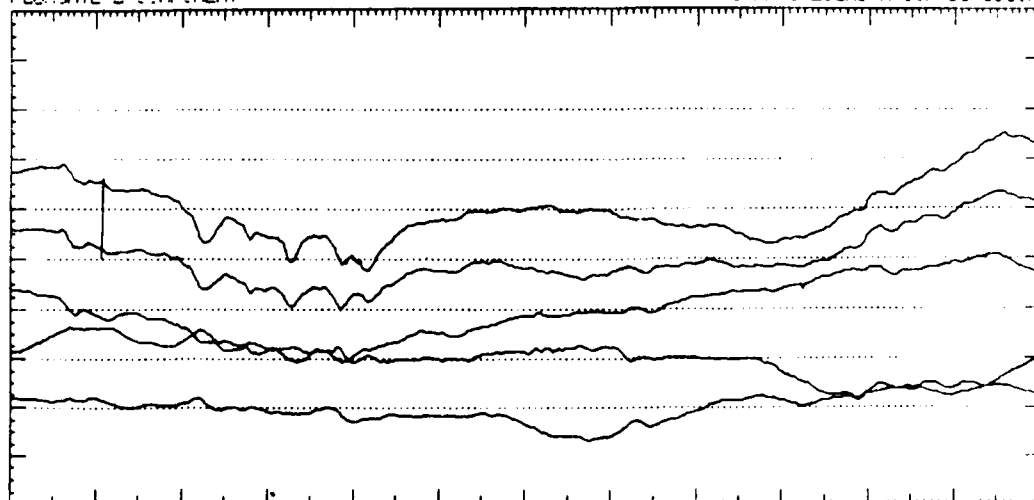
RPC
-43
CDS
72
MCL
60
SUB
-15
LOC
72
TPA
2



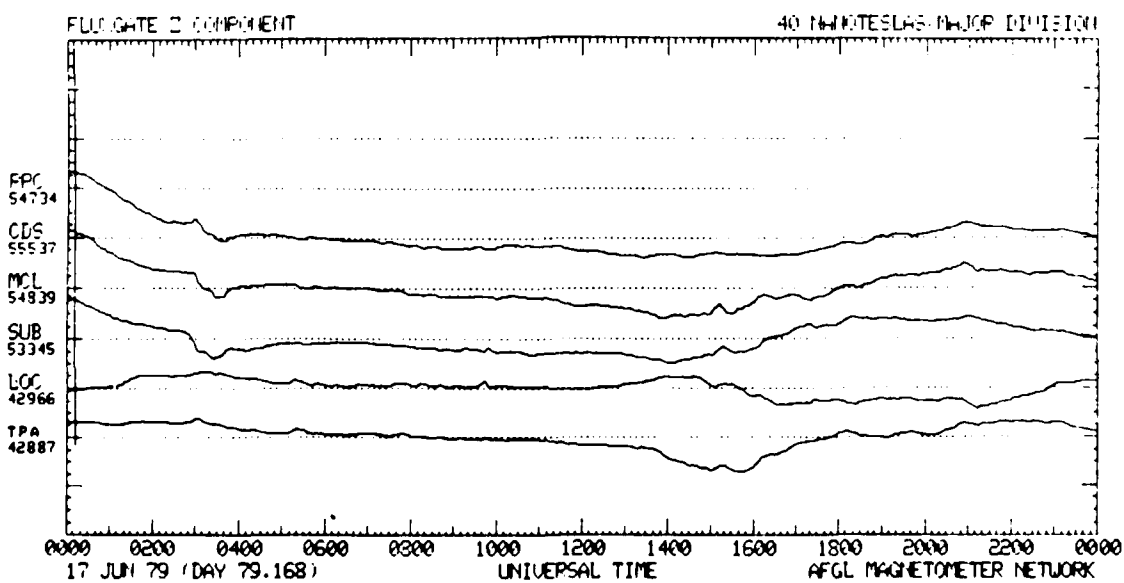
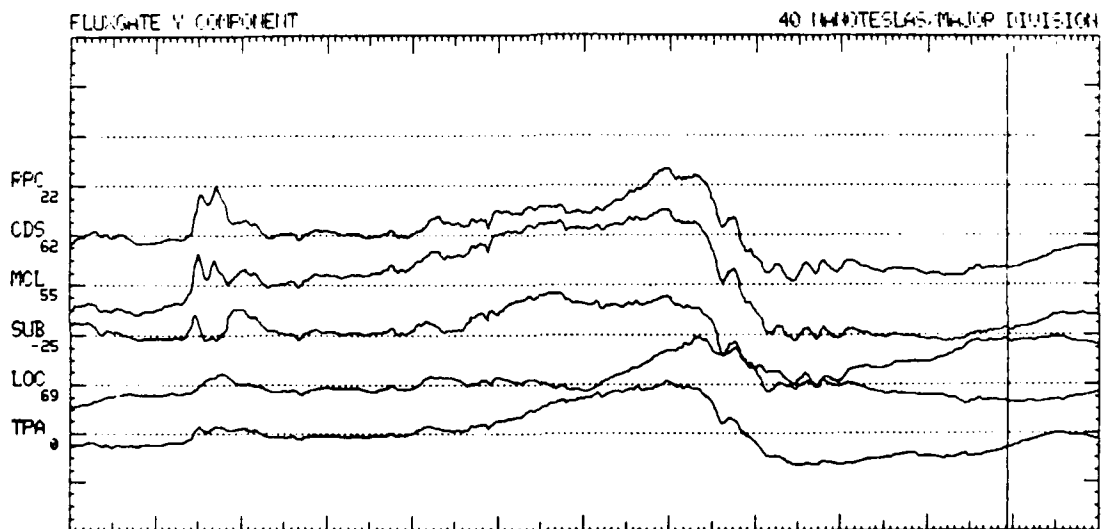
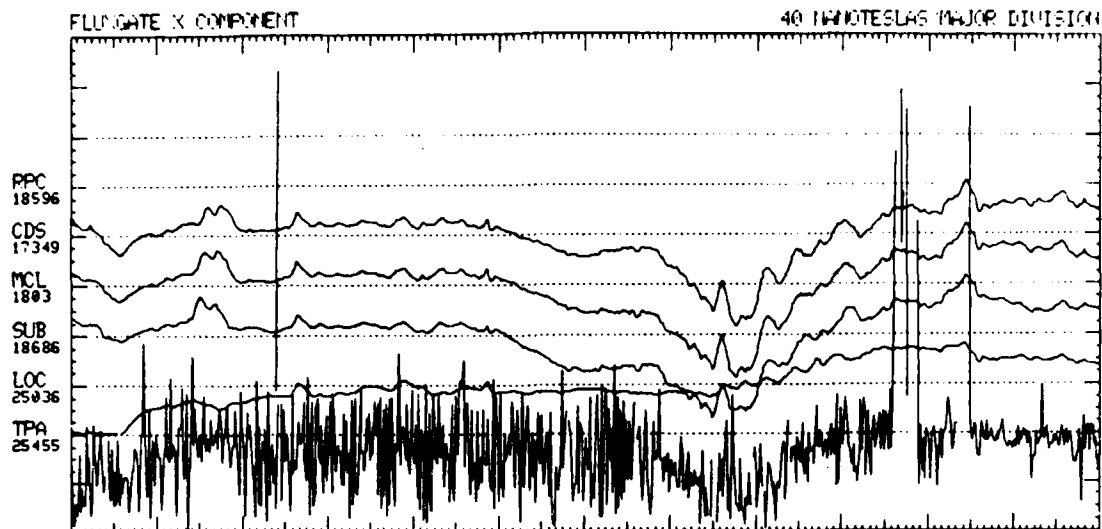
FLIGHTLINE Z COMPONENT

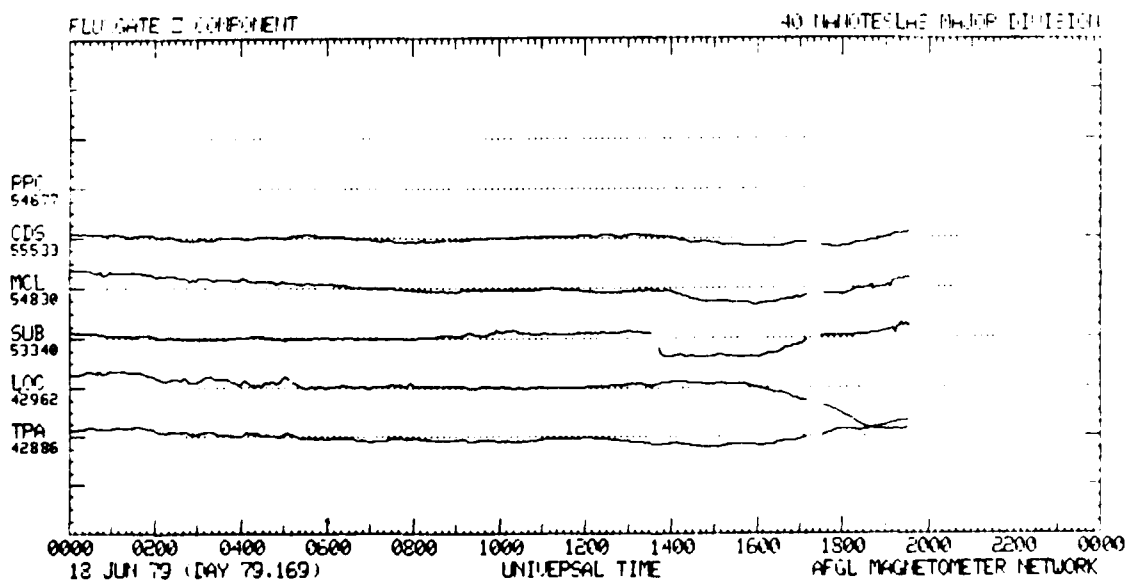
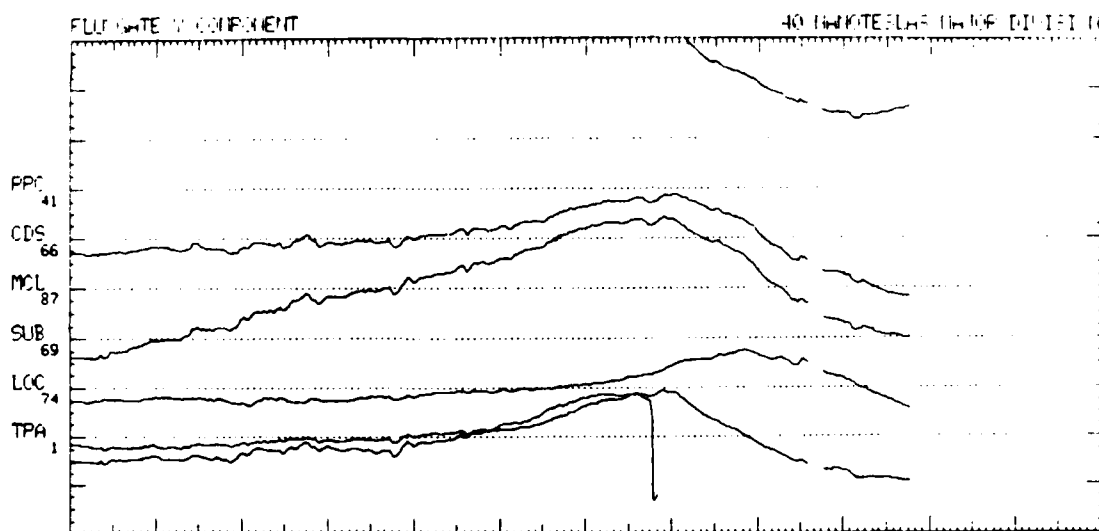
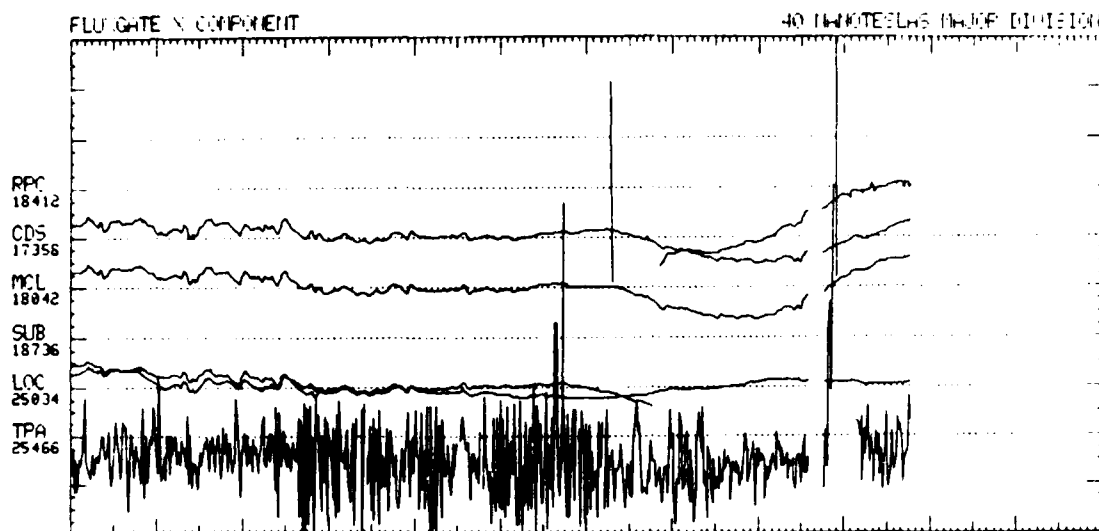
40 NANOTESLAH MAJOR DIVISION

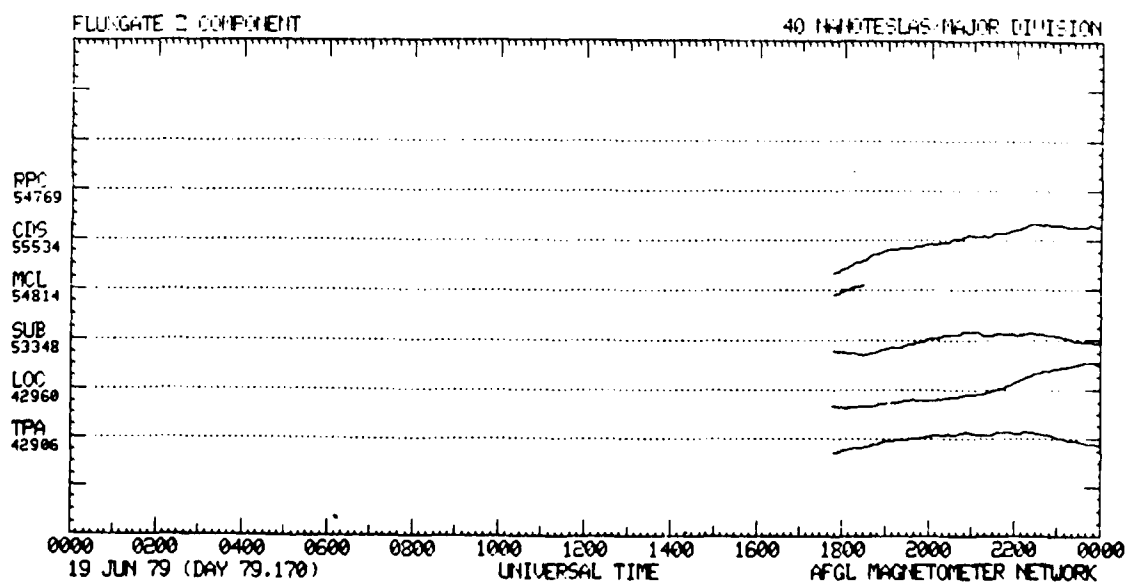
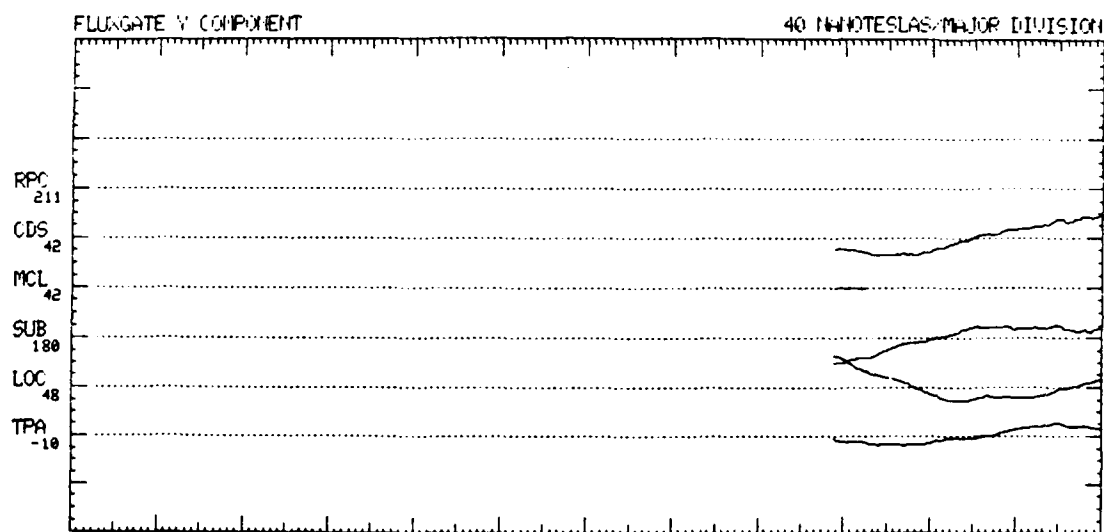
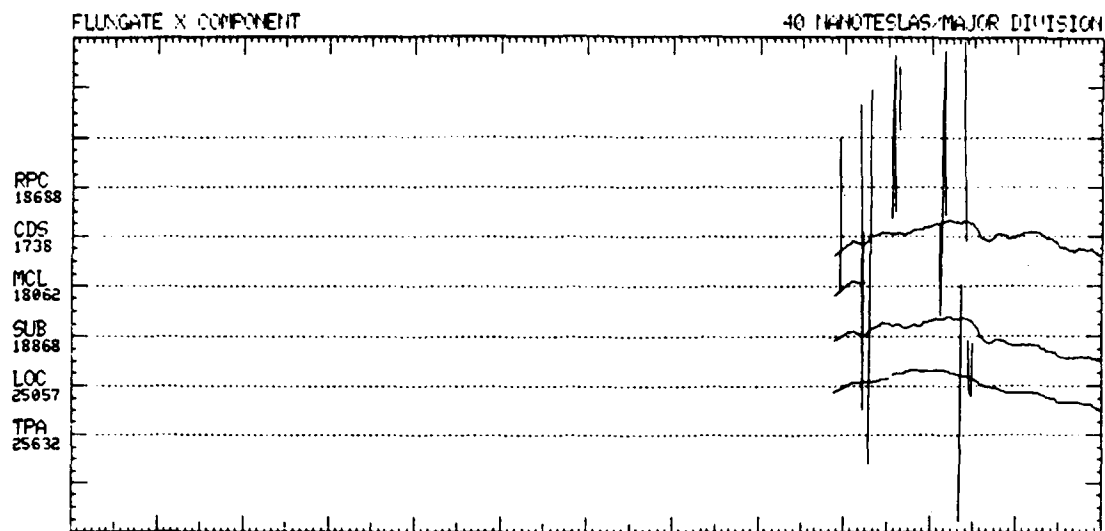
RPC
54735
CDS
55537
MCL
54840
SUB
53352
LOC
42964
TPA
42890



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
16 JUN 79 (DAY 79.167) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

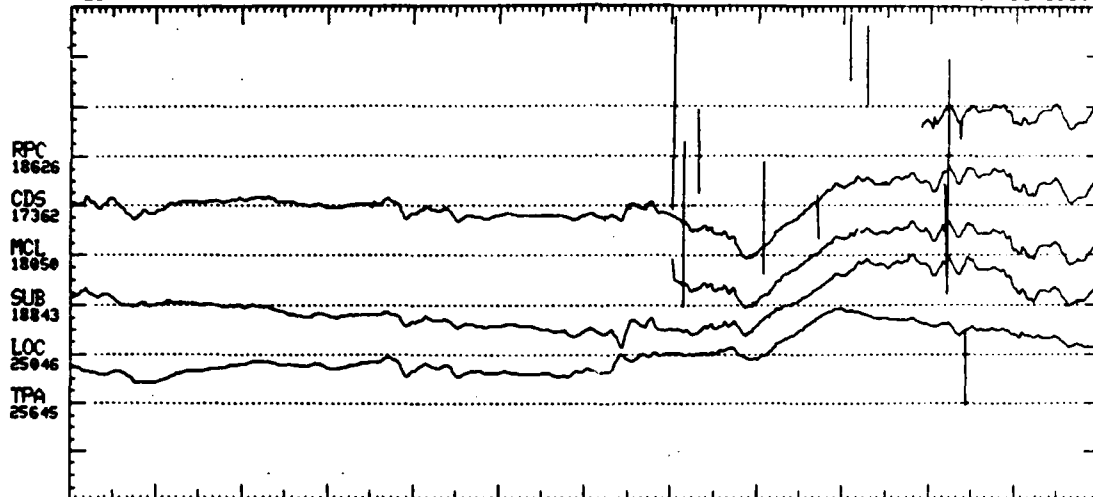






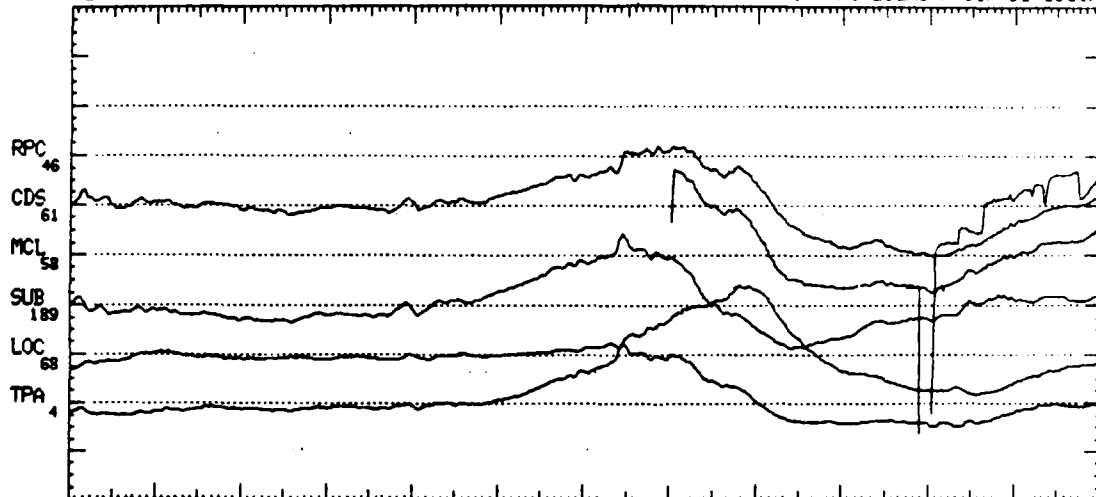
FLUXGATE X COMPONENT

40 NANOTESLAS/MAJOR DIVISION



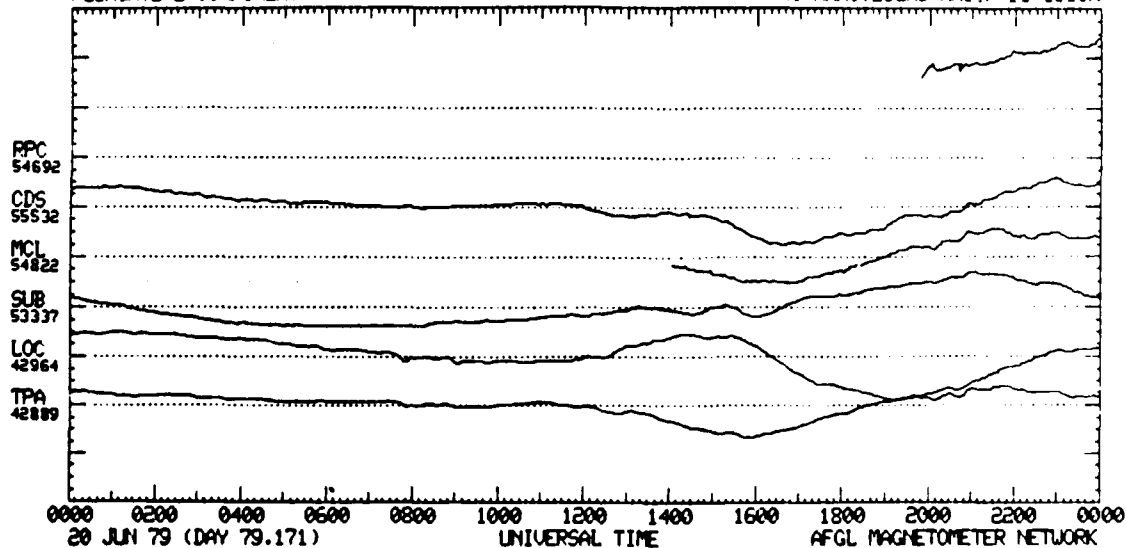
FLUXGATE Y COMPONENT

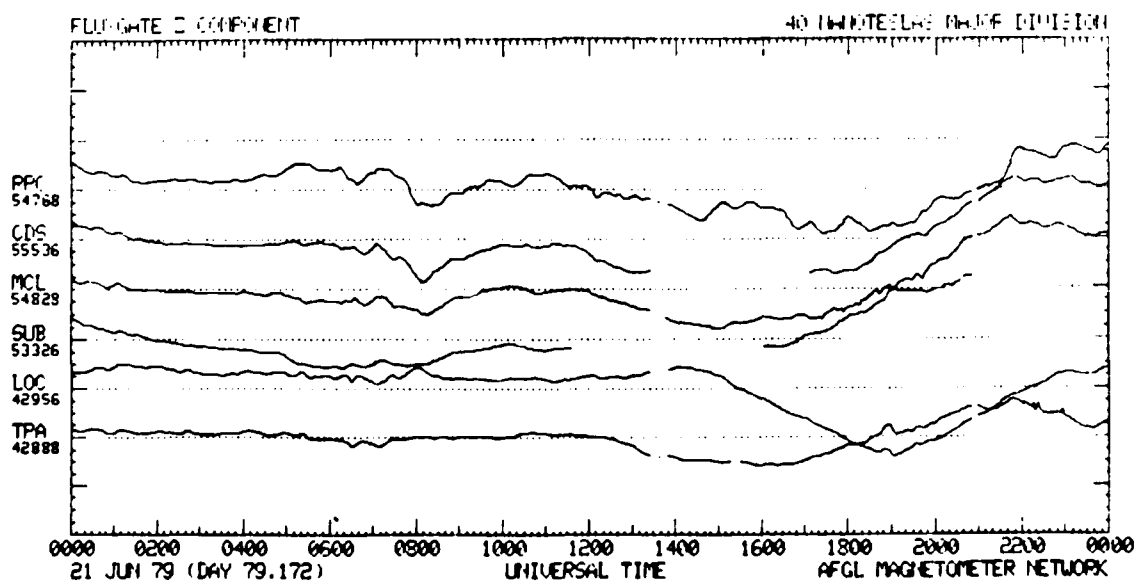
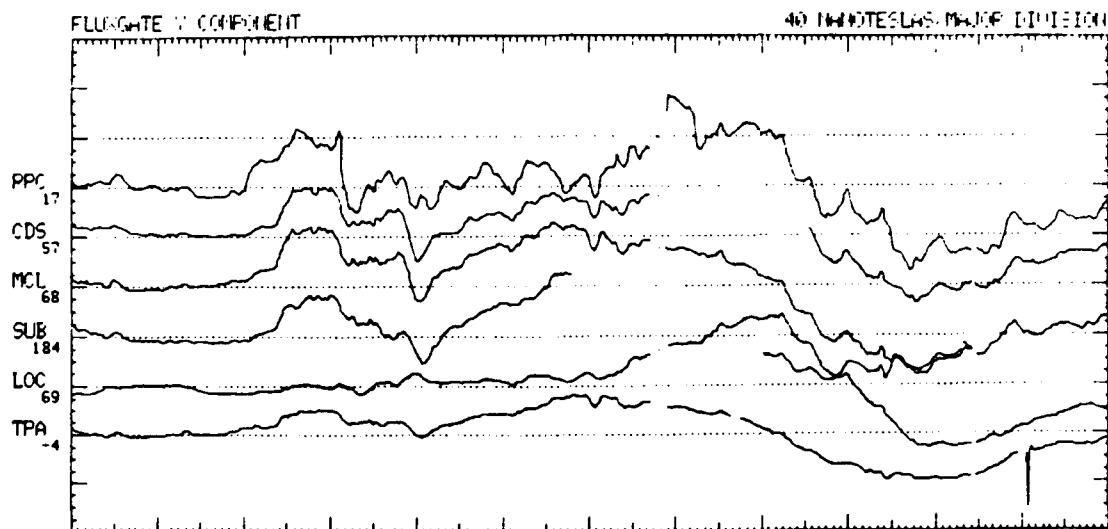
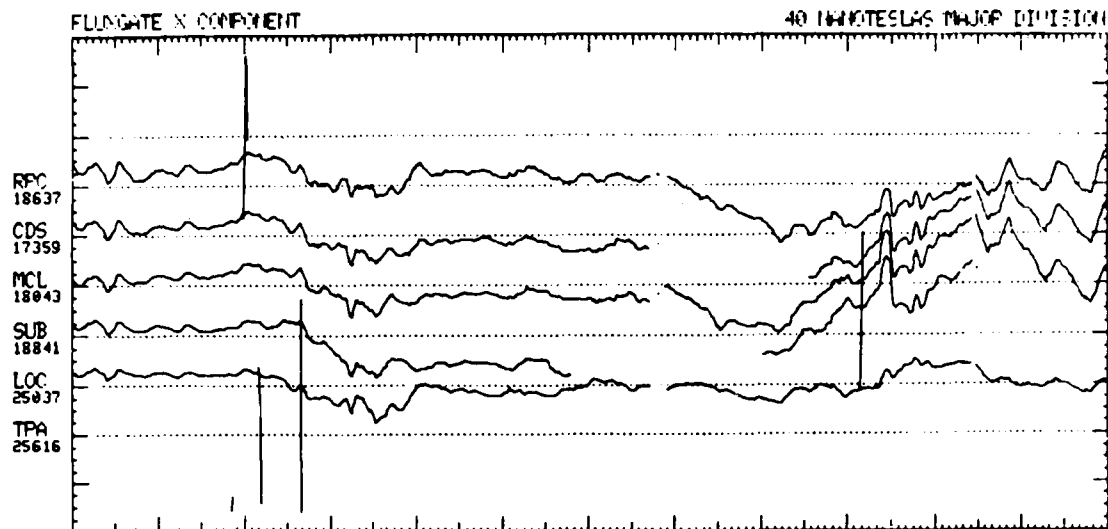
40 NANOTESLAS/MAJOR DIVISION

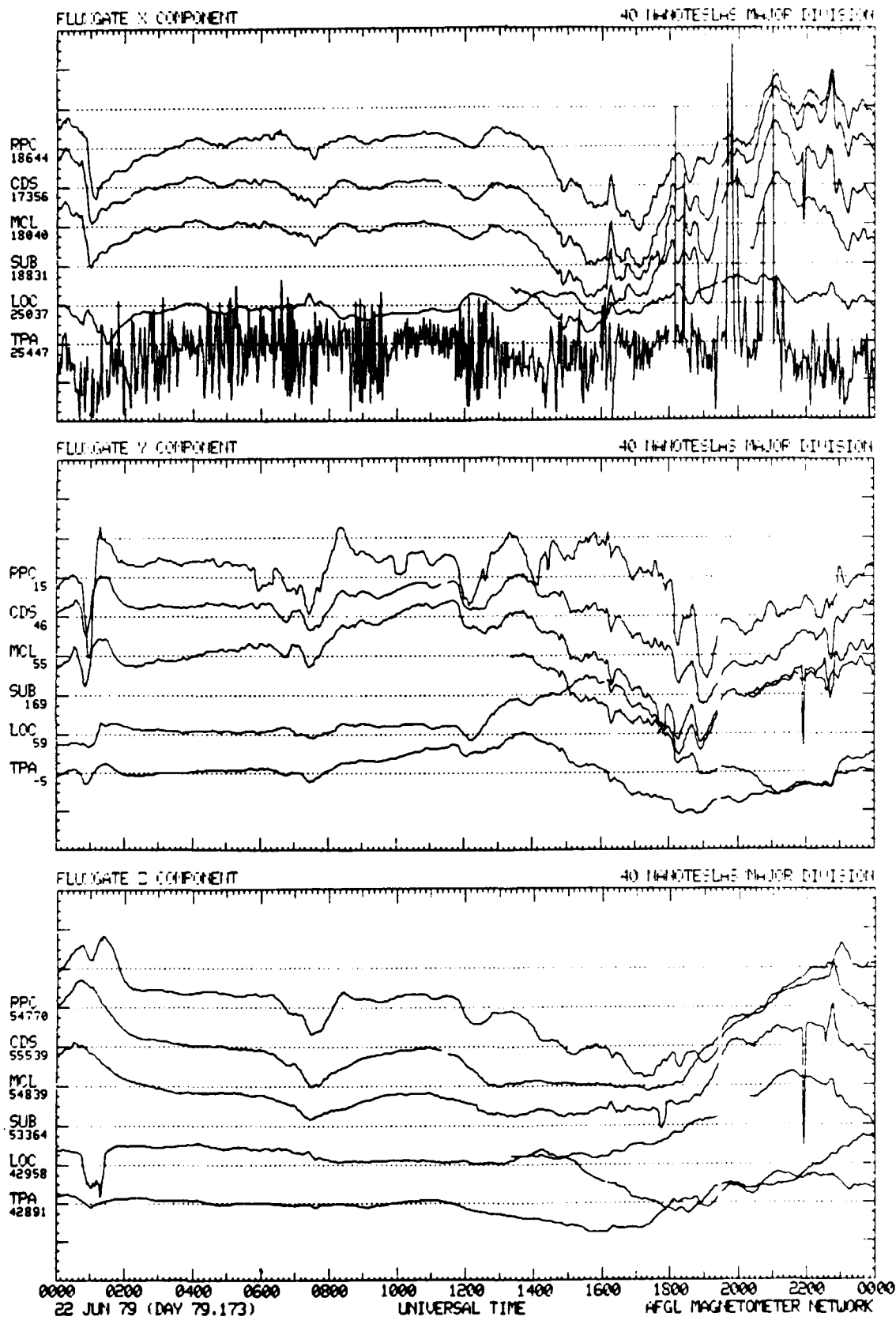


FLUXGATE Z COMPONENT

40 NANOTESLAS/MAJOR DIVISION

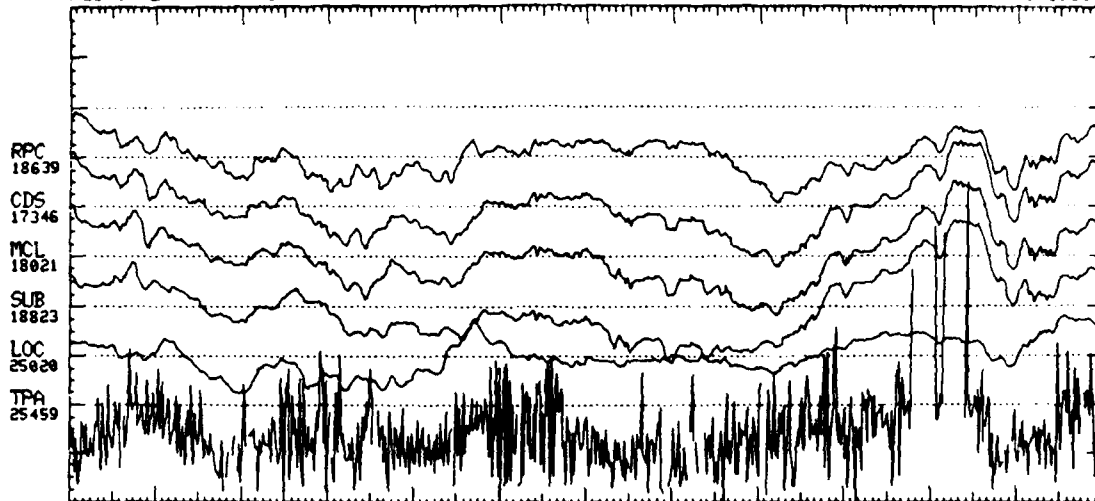






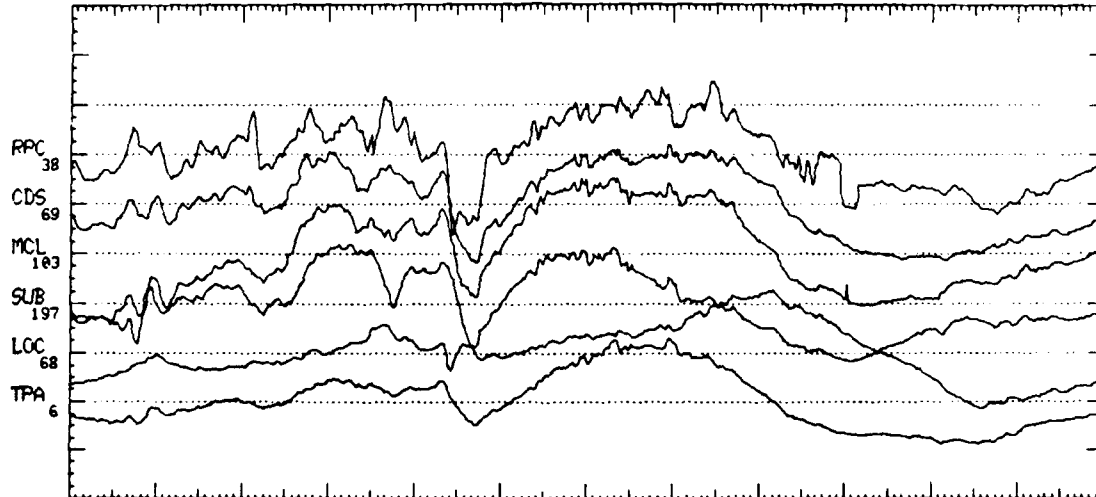
FLURGATE Y COMPONENT

40 NANOTESLAS/MAJOR DIVISION



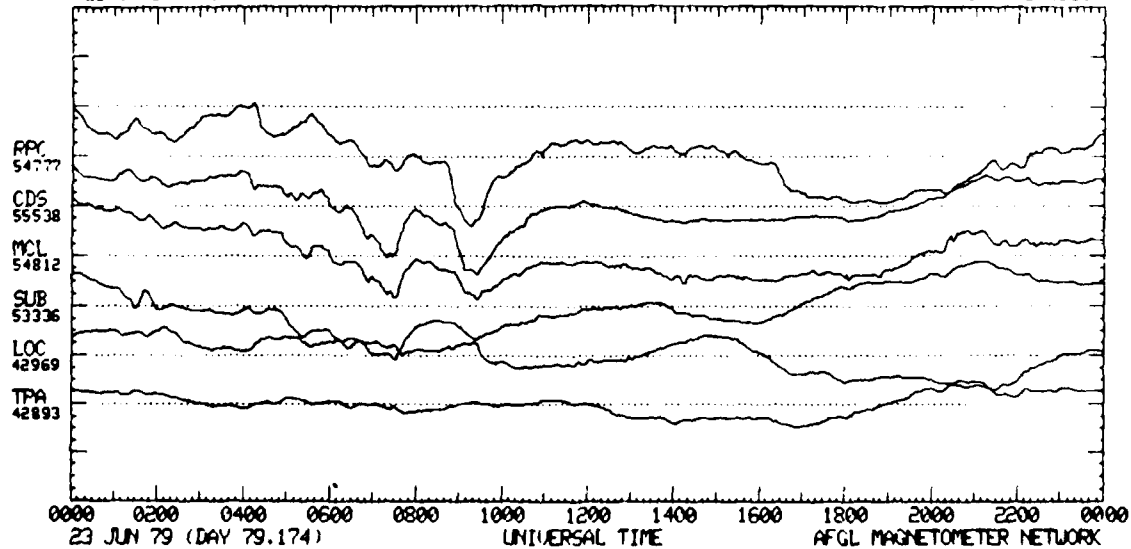
FLURGATE Y COMPONENT

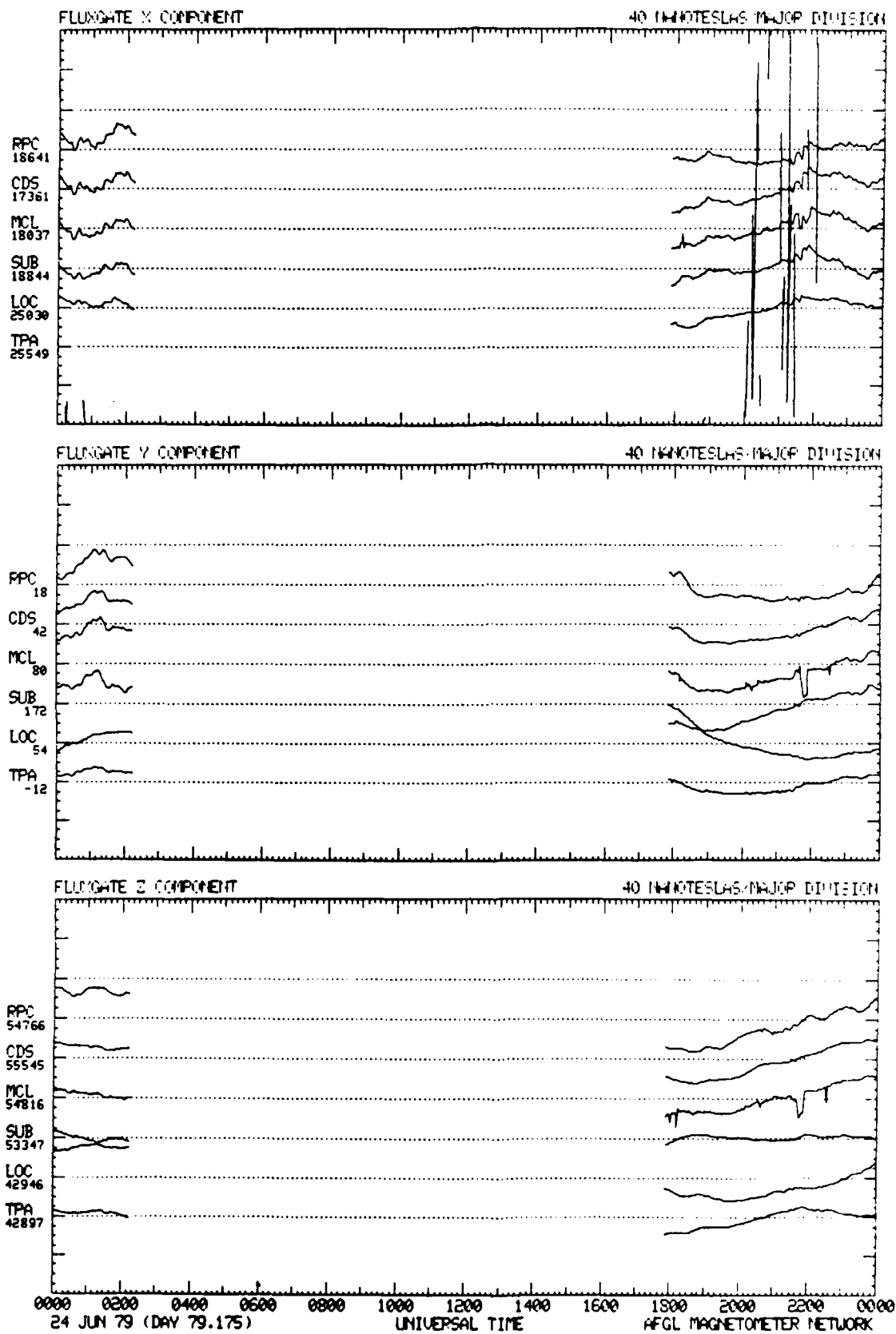
40 NANOTESLAS/MAJOR DIVISION

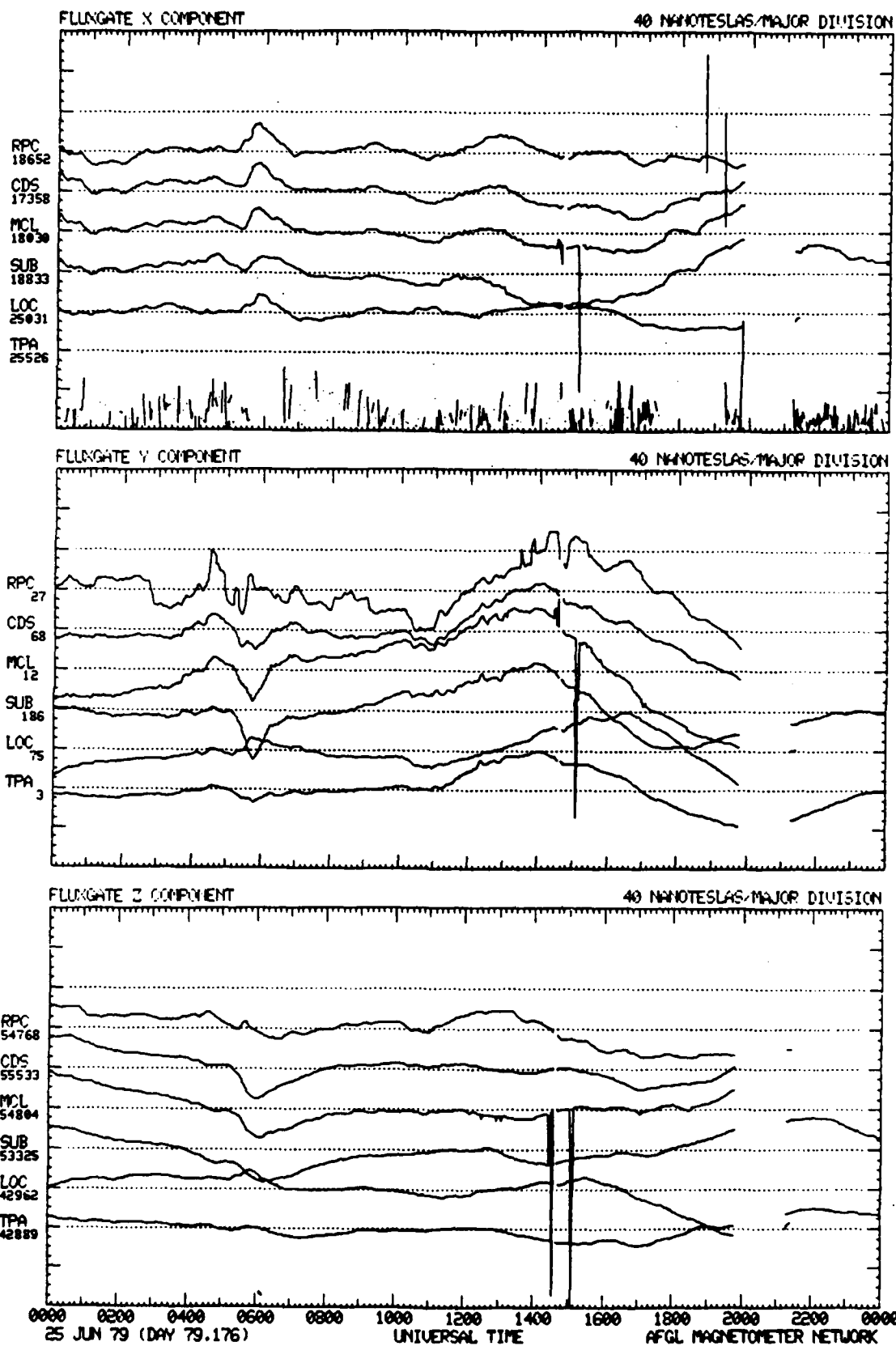


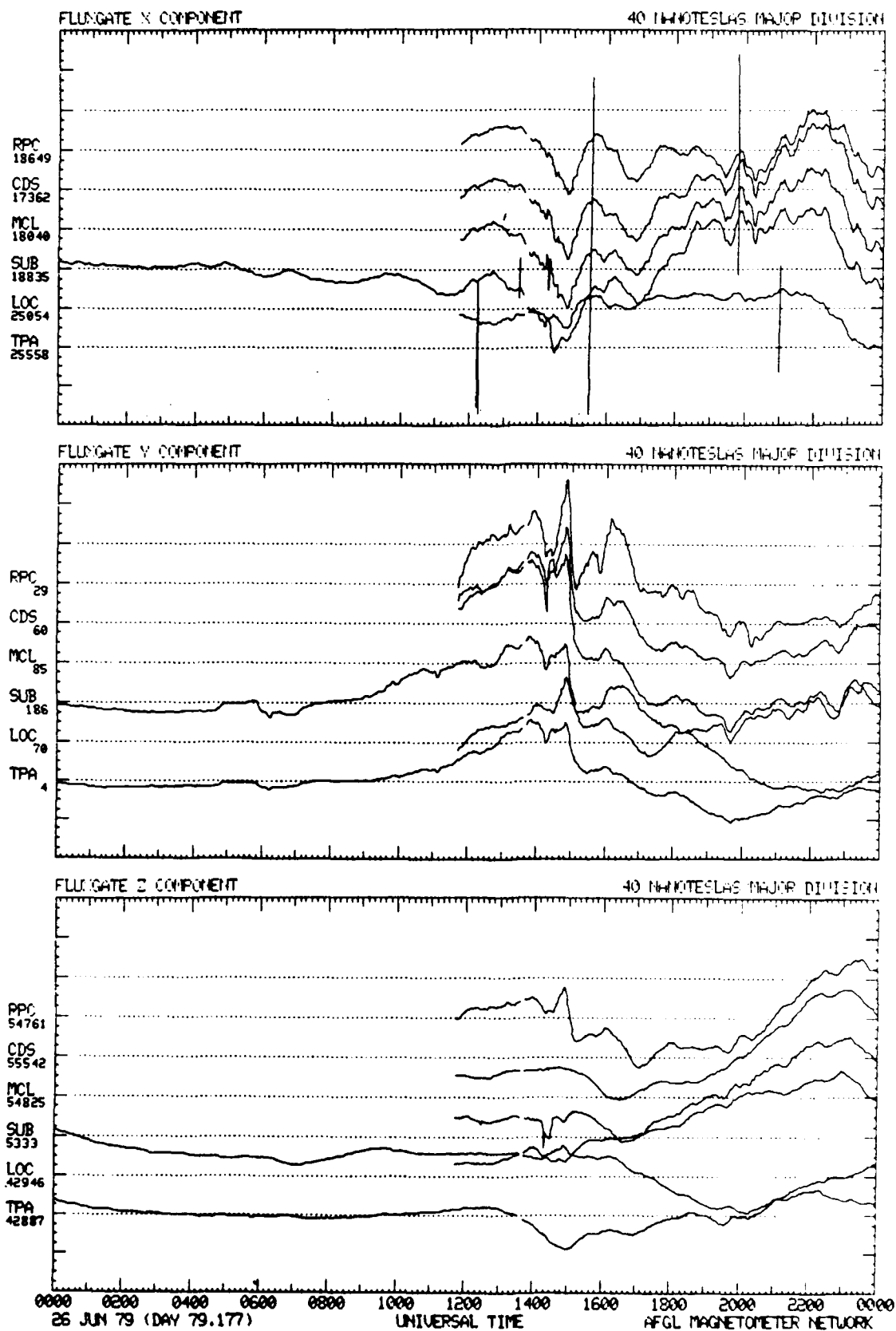
FLURGATE Z COMPONENT

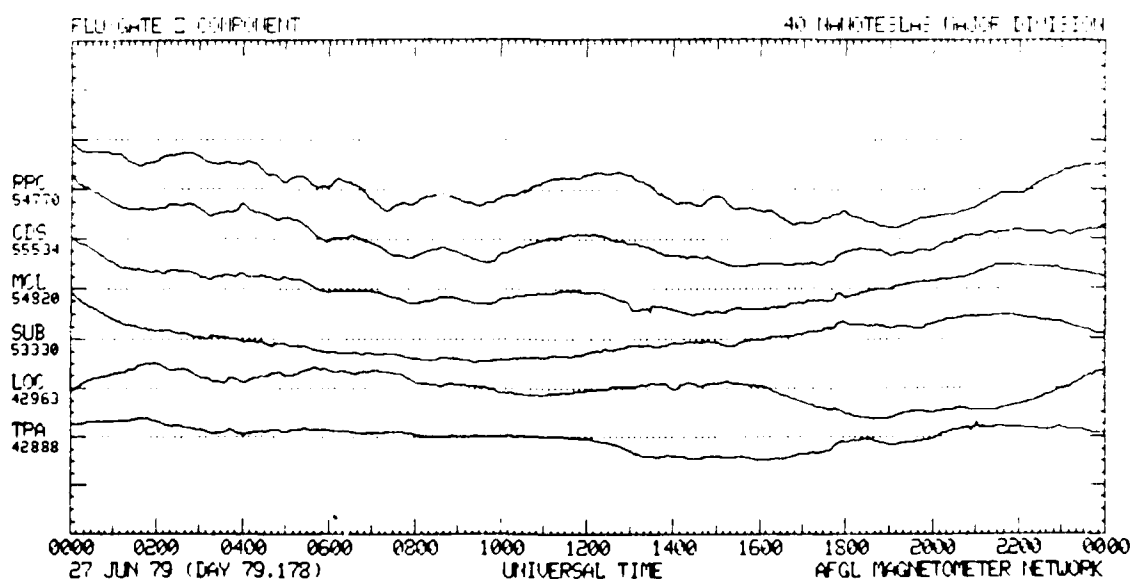
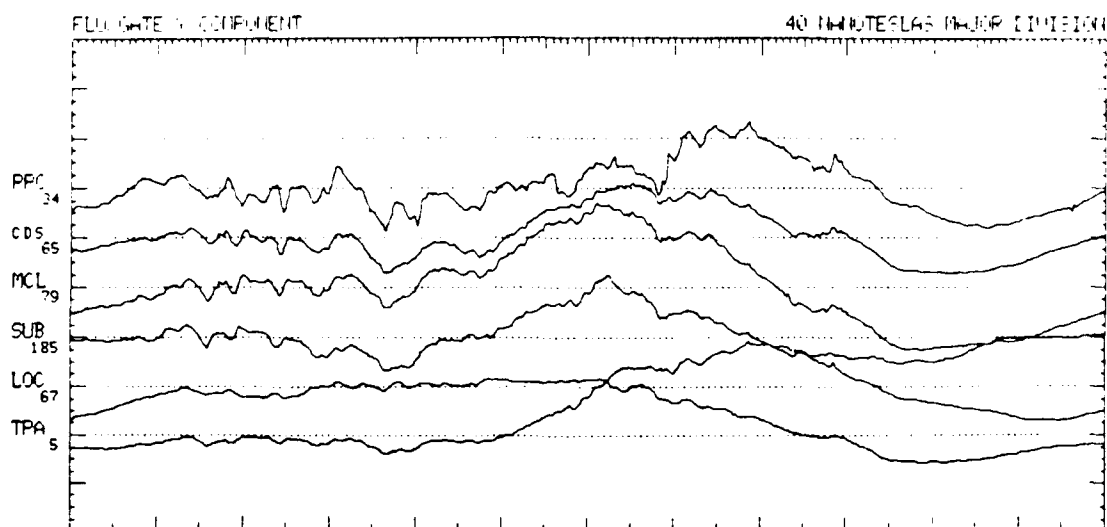
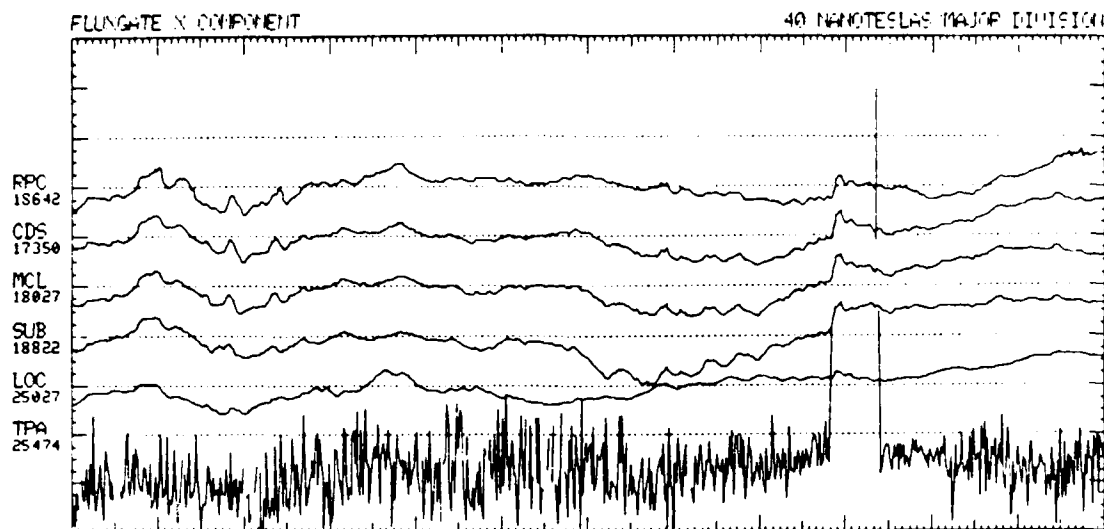
40 NANOTESLAS/MAJOR DIVISION

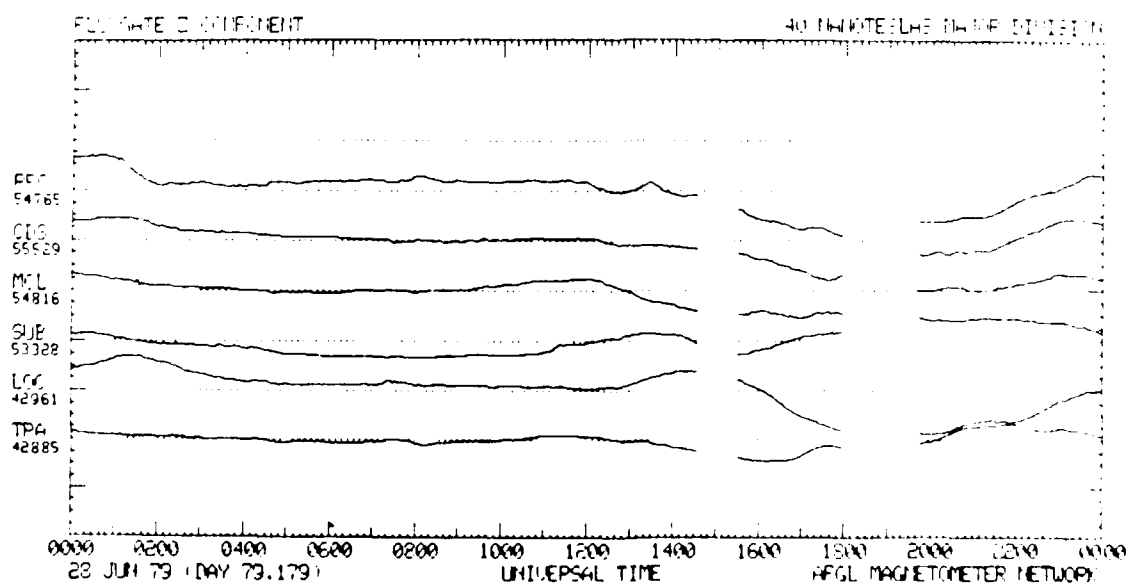
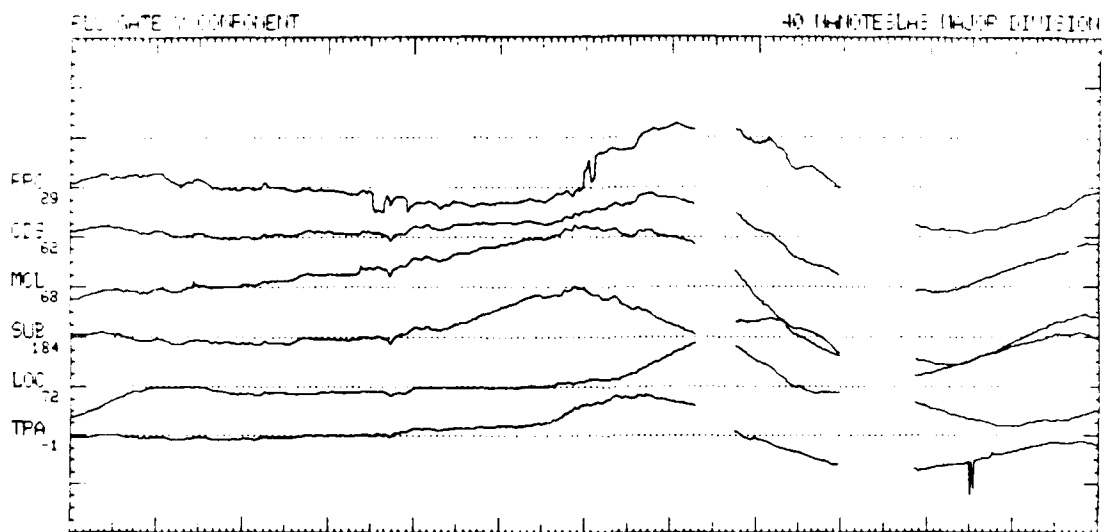
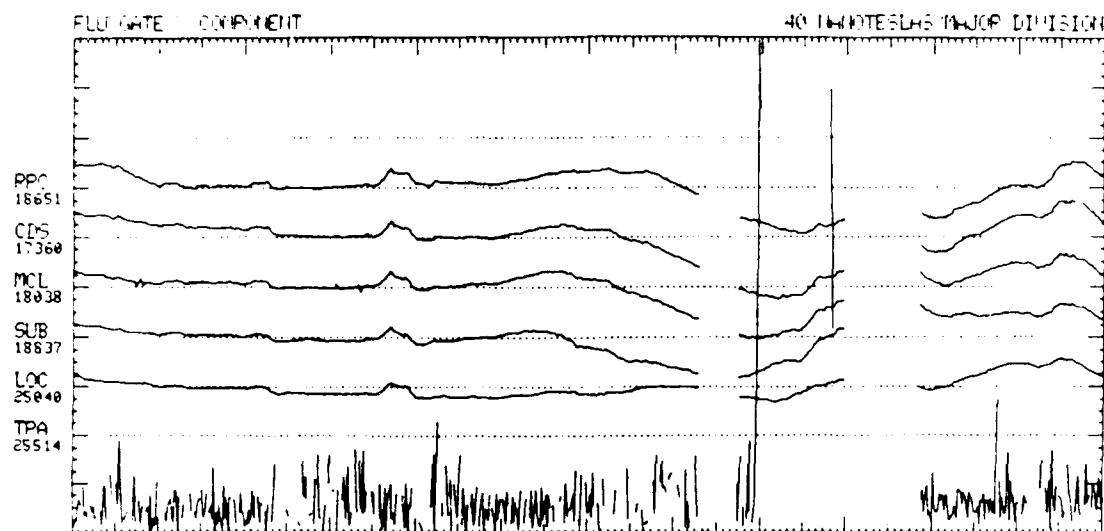












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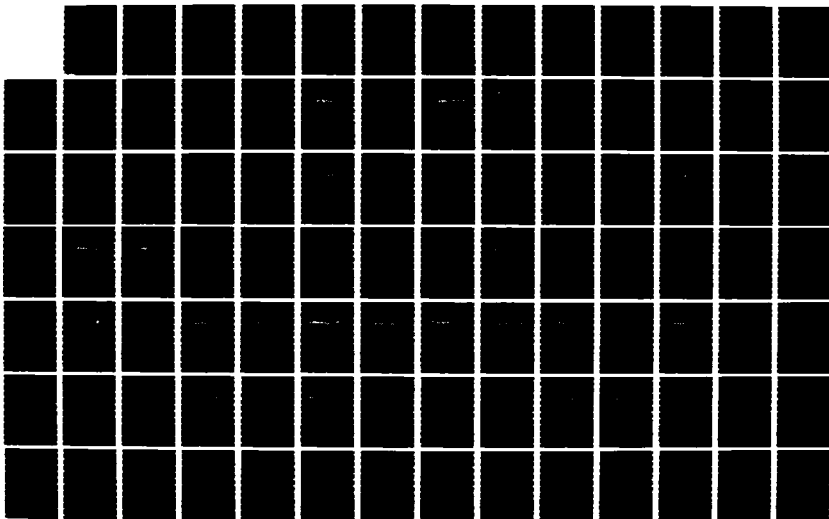
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AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA D J KNECHT
22 FEB 85 AFGL-TR-85-0028

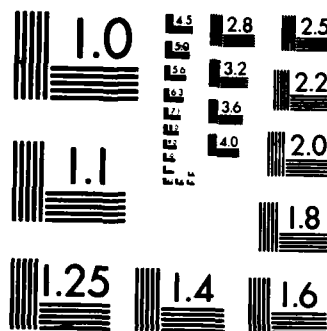
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UNCLASSIFIED

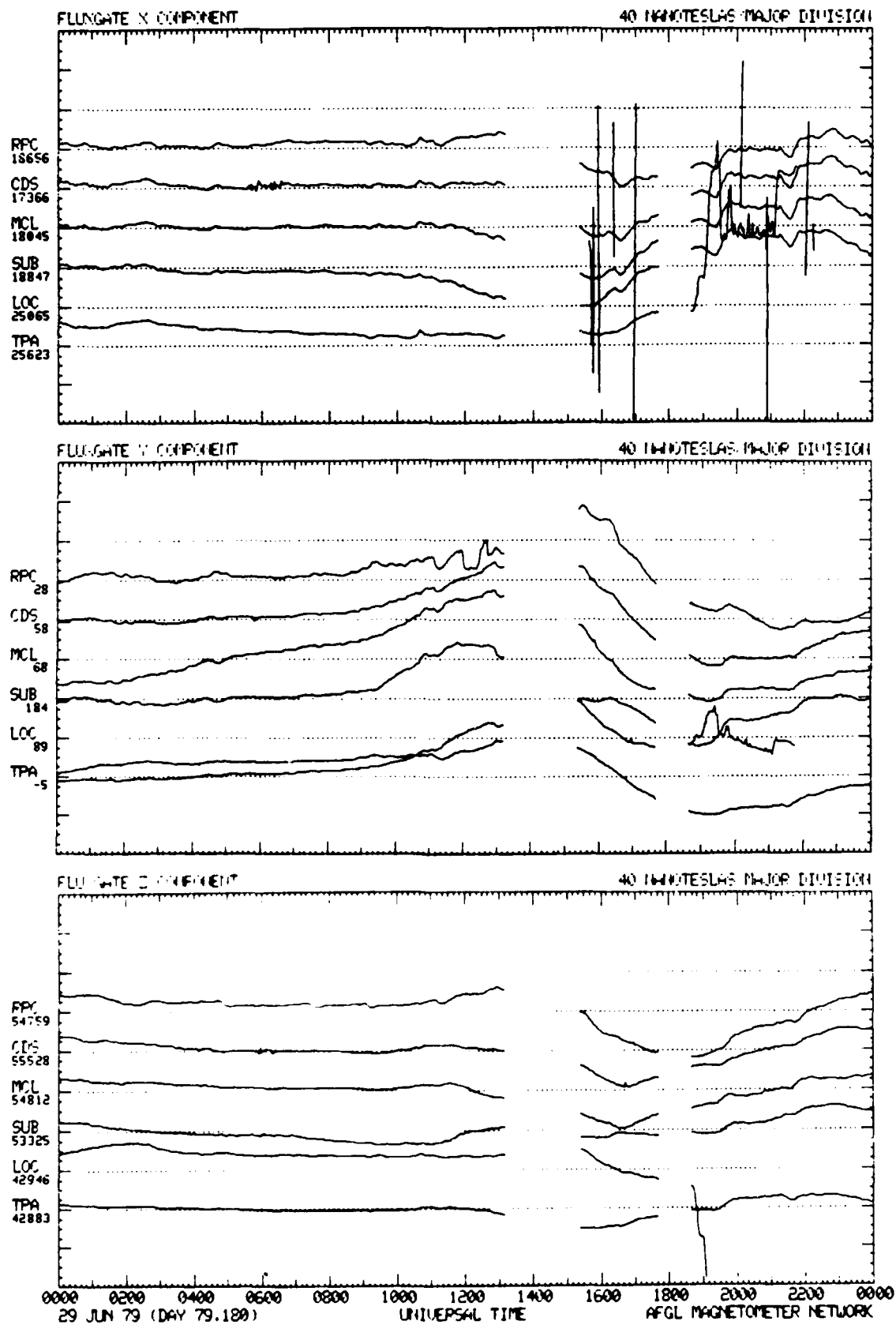
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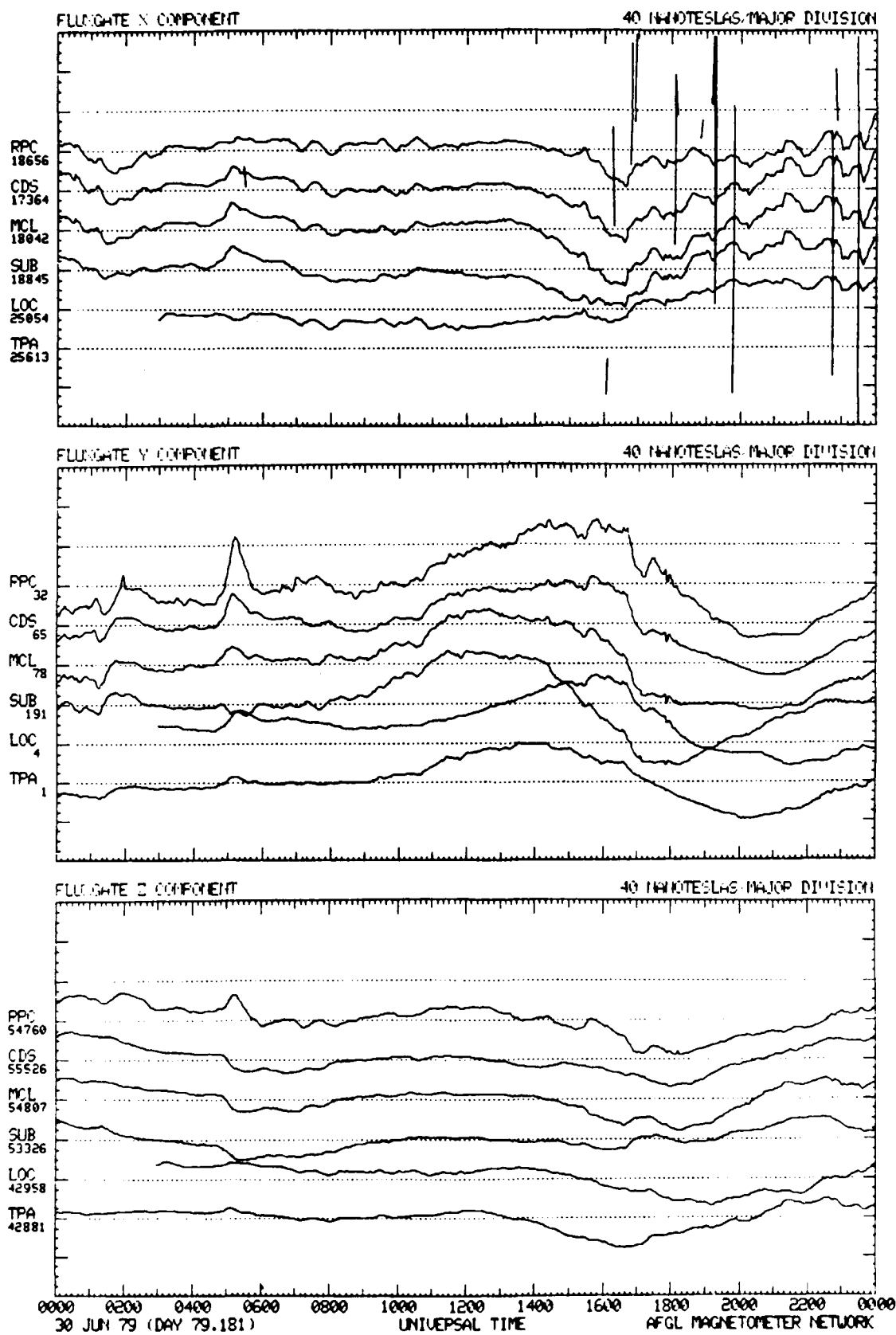
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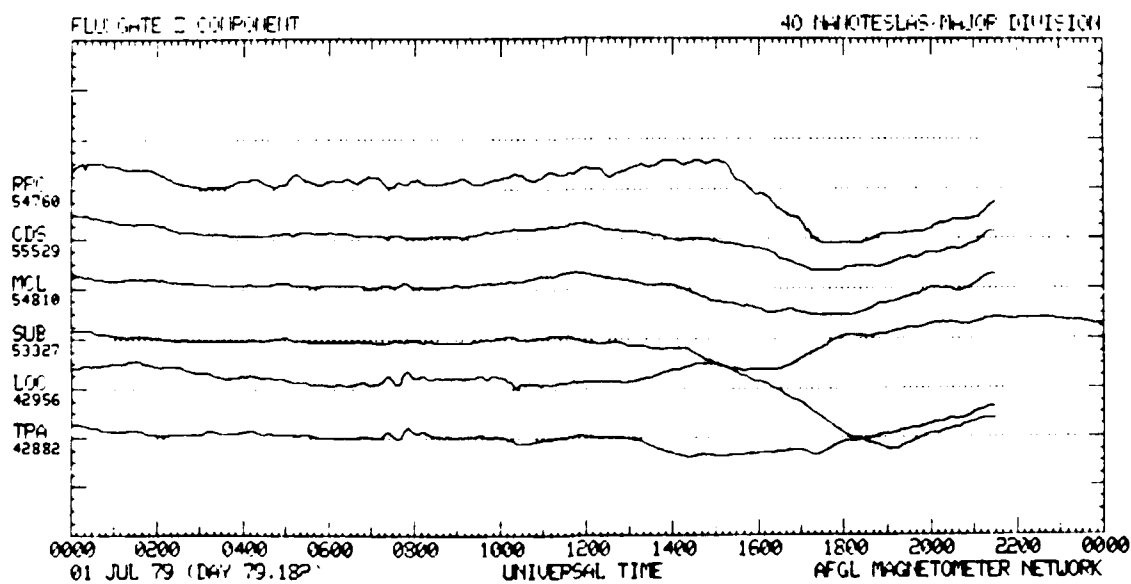
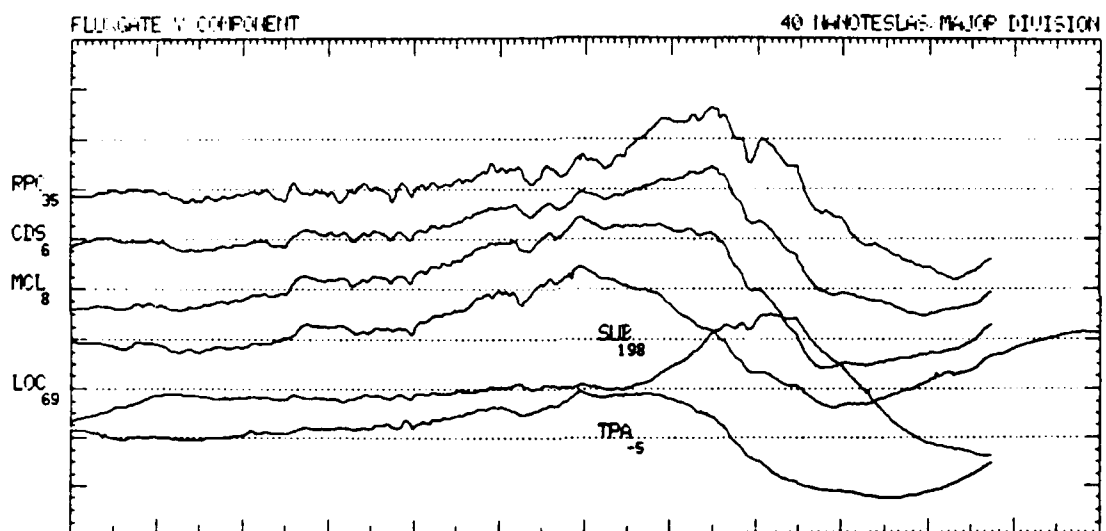
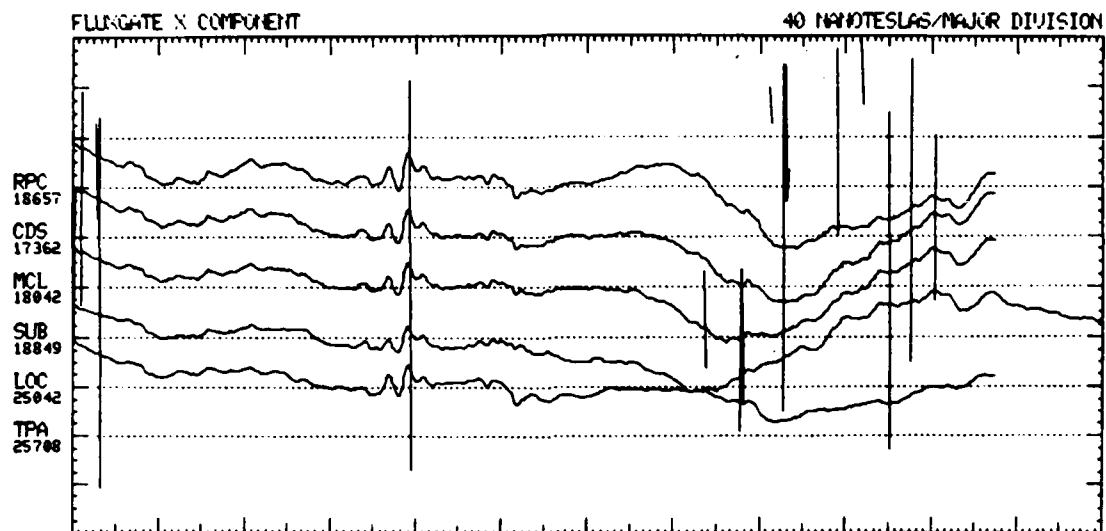


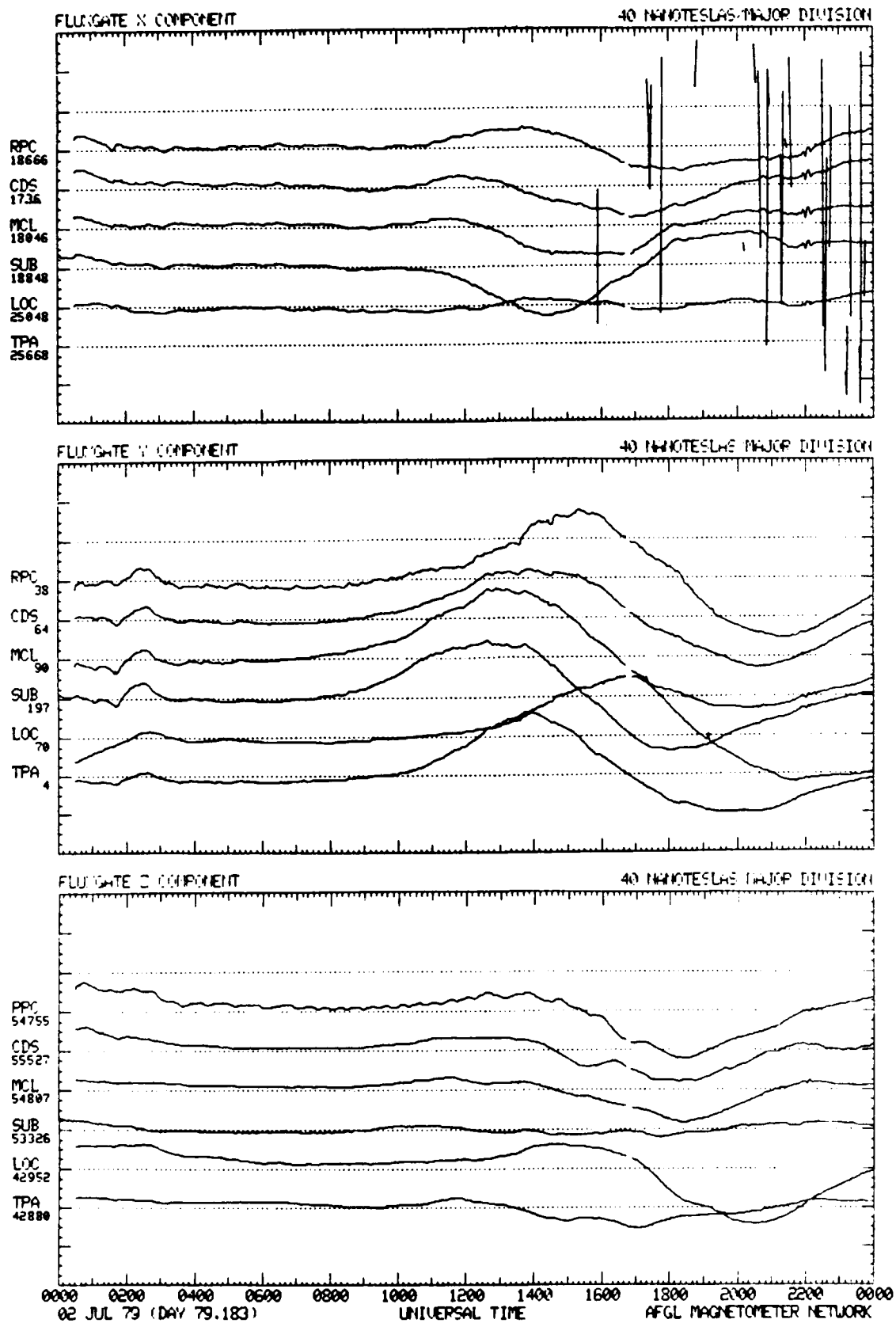


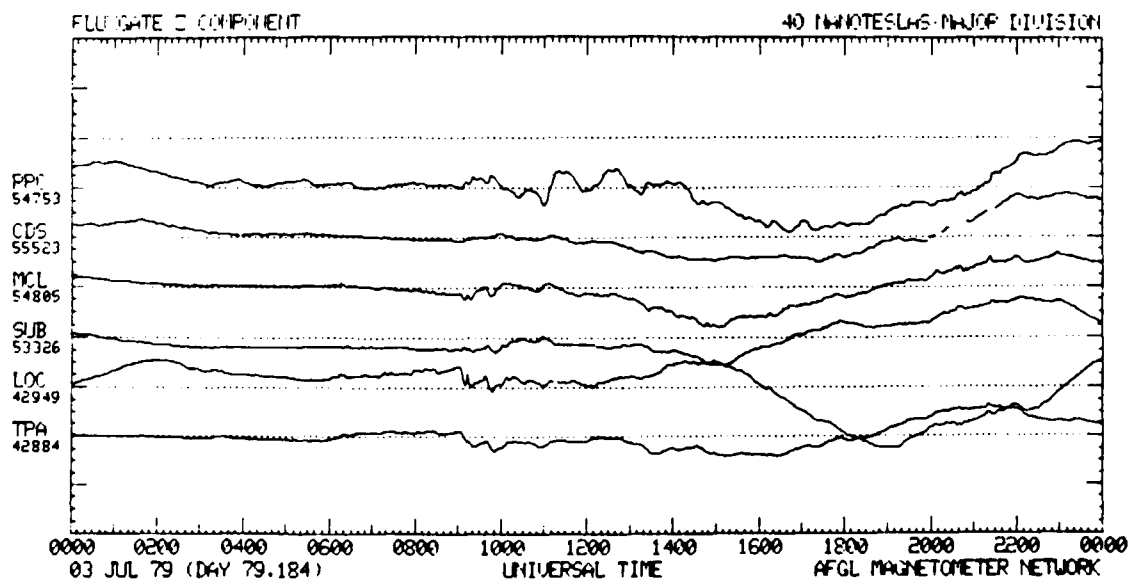
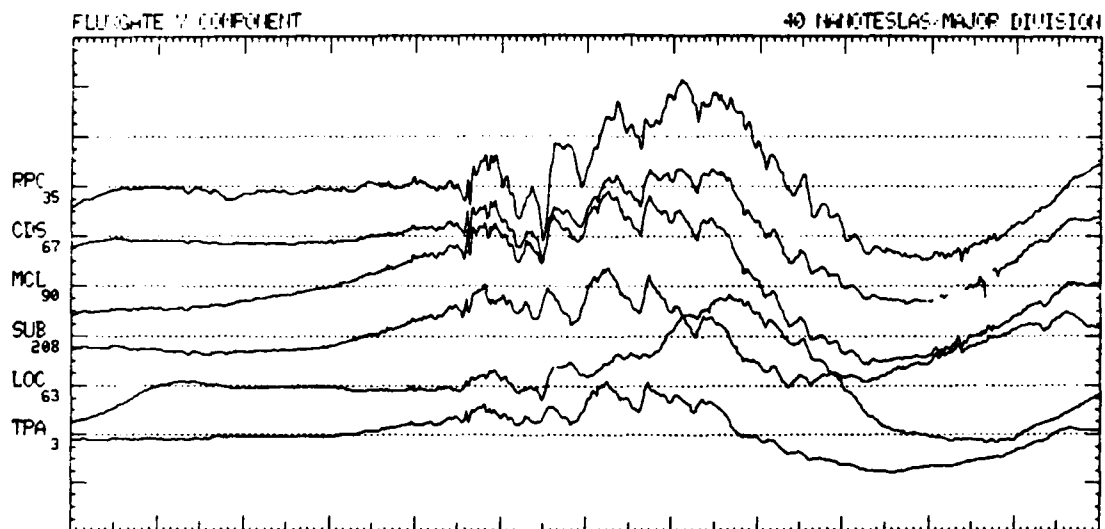
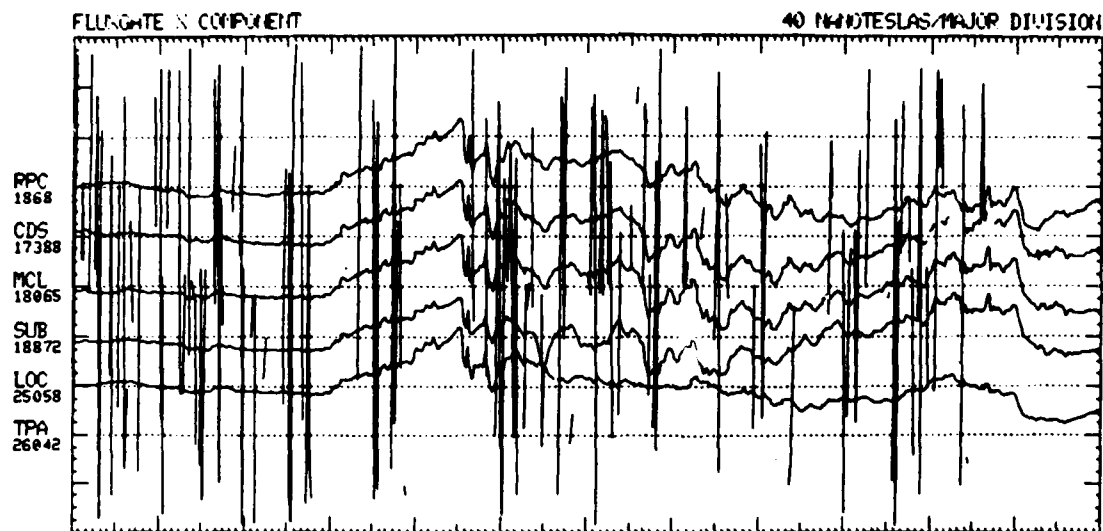
XEROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

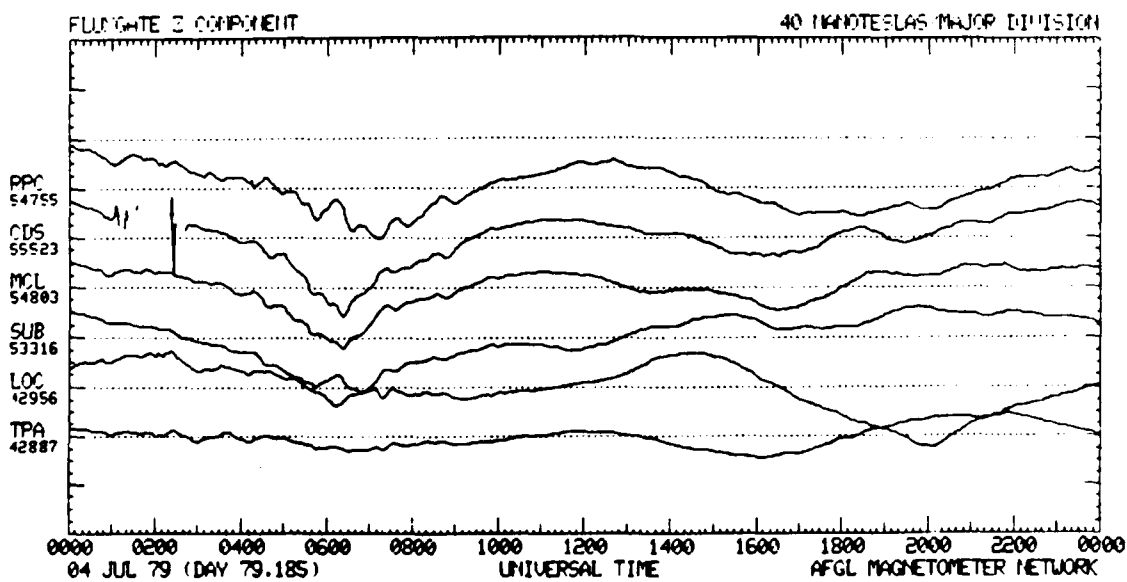
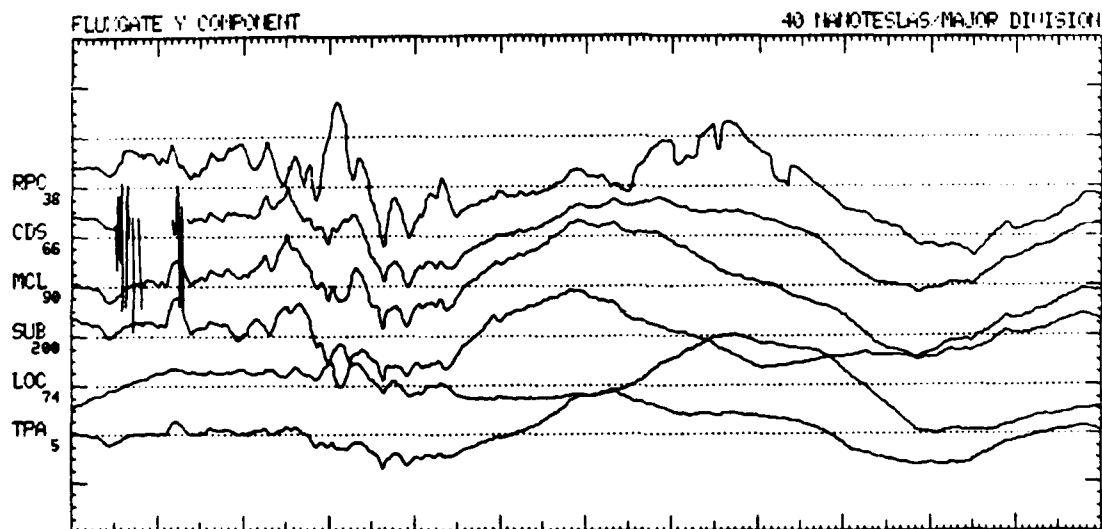
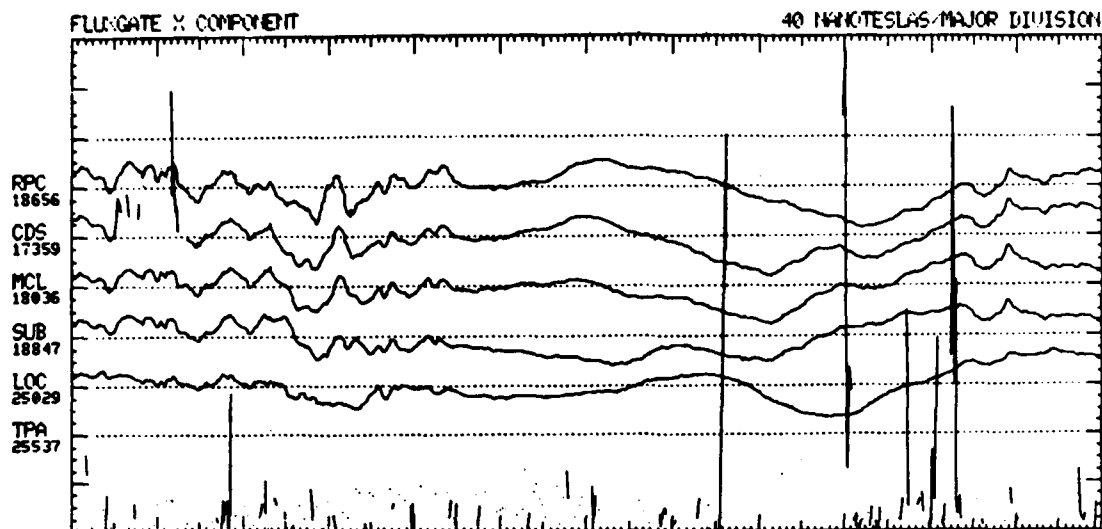


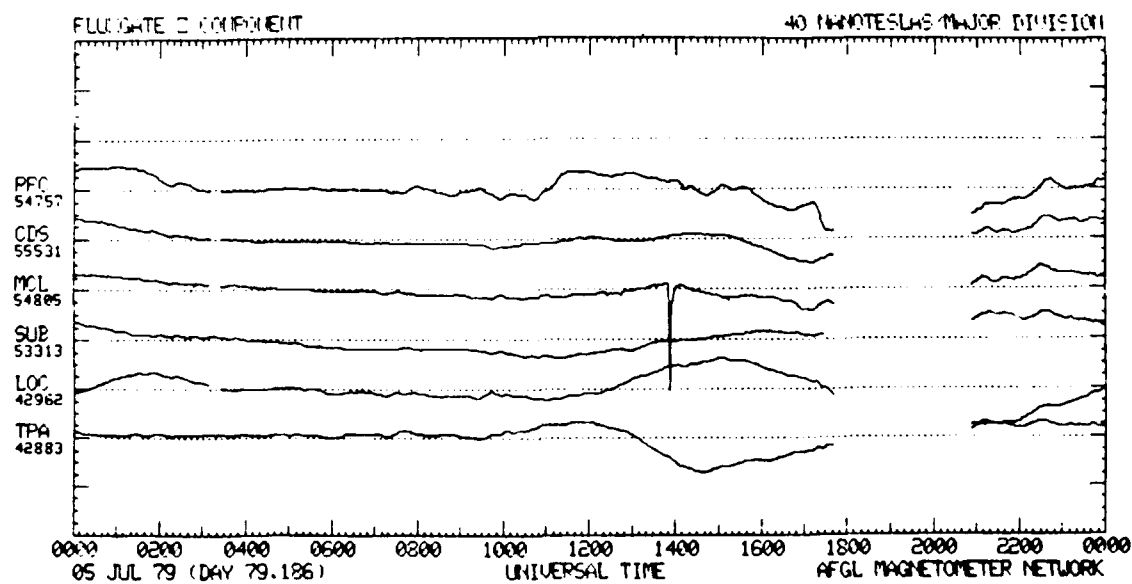
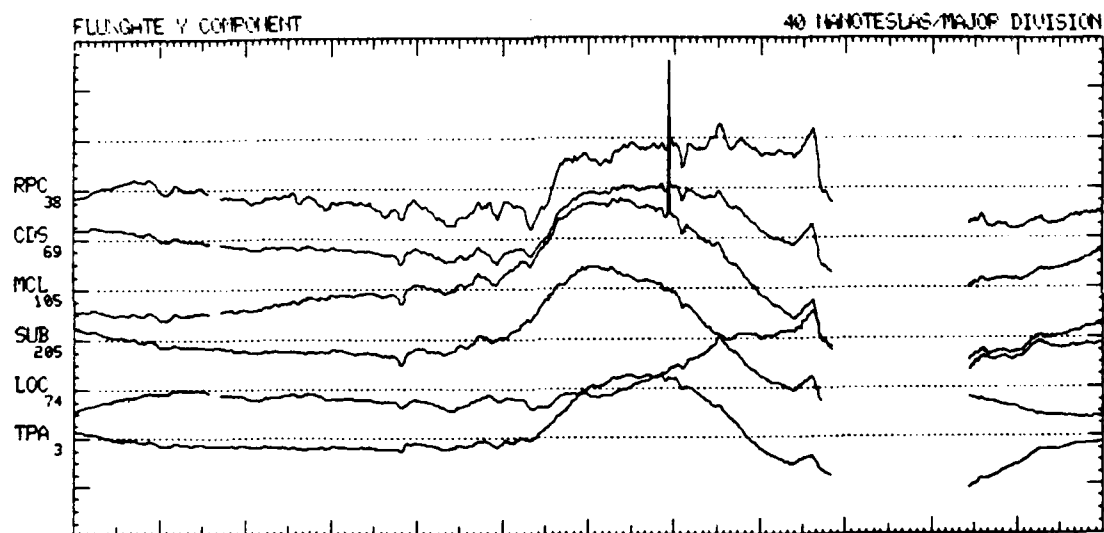
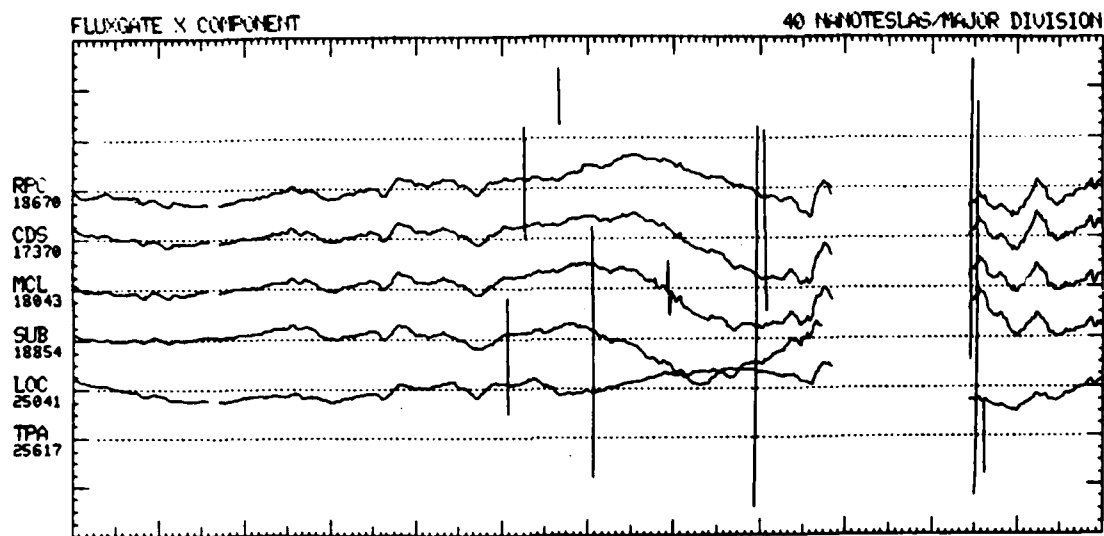


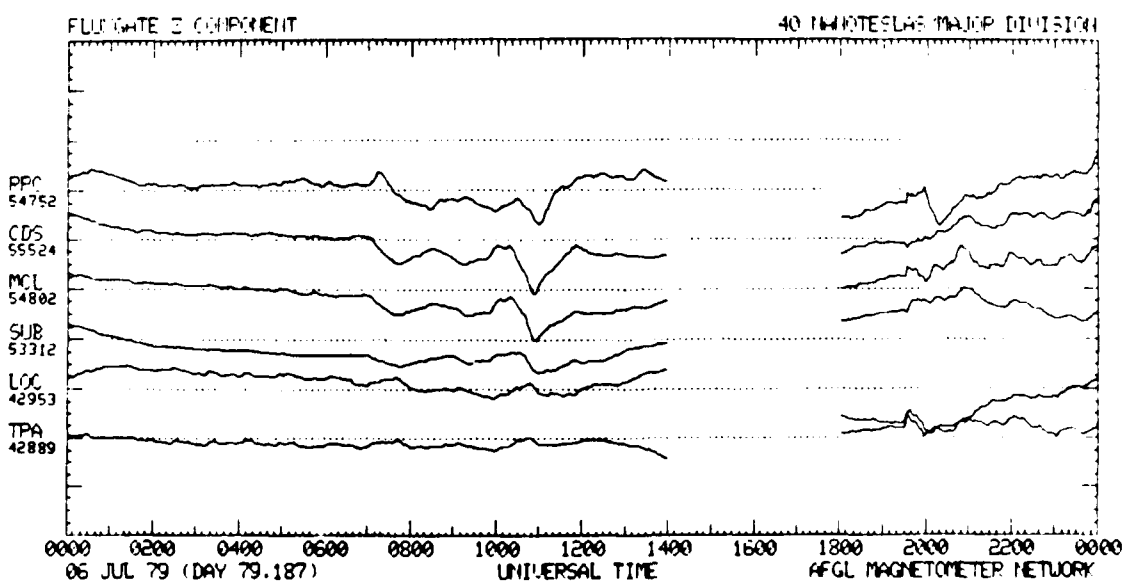
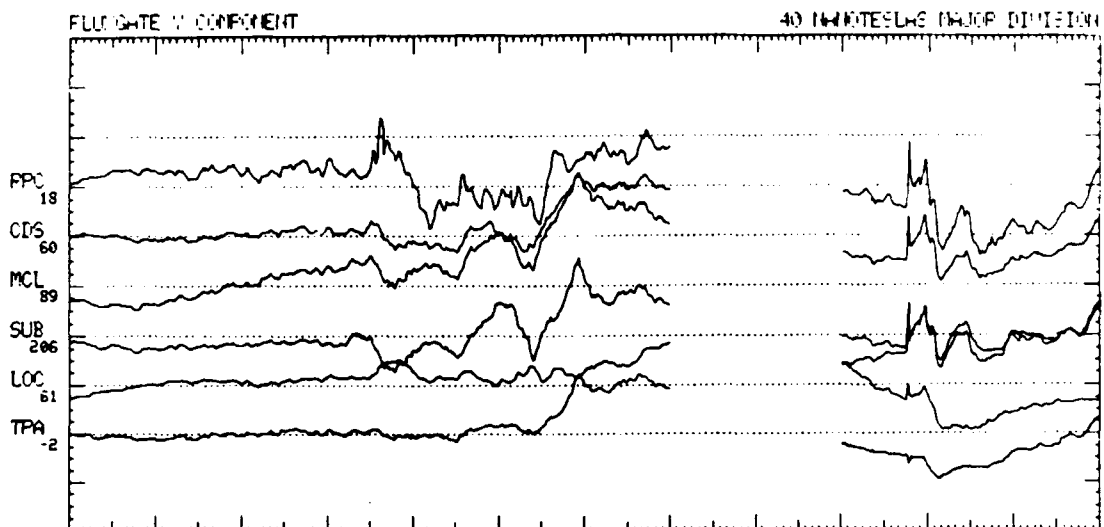
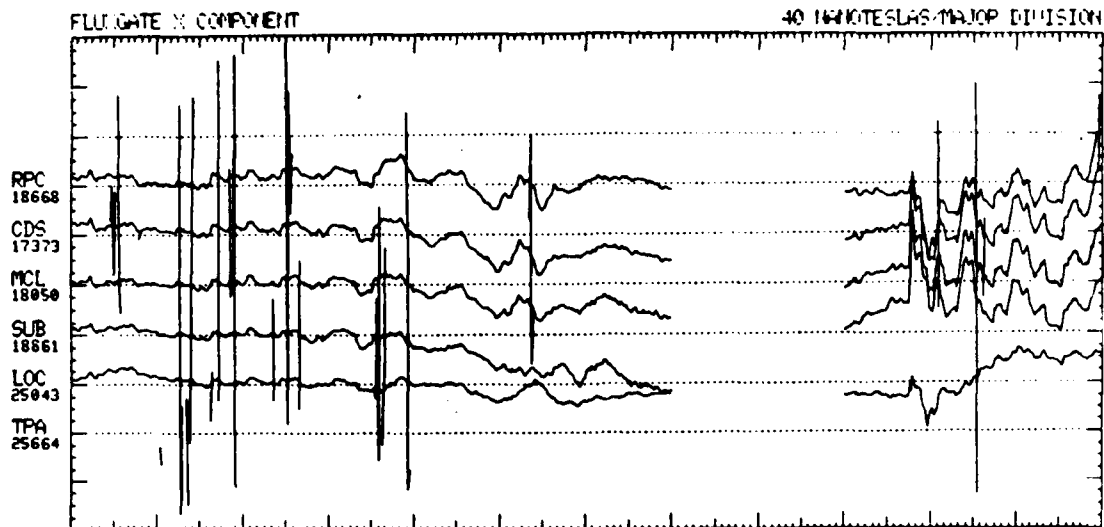


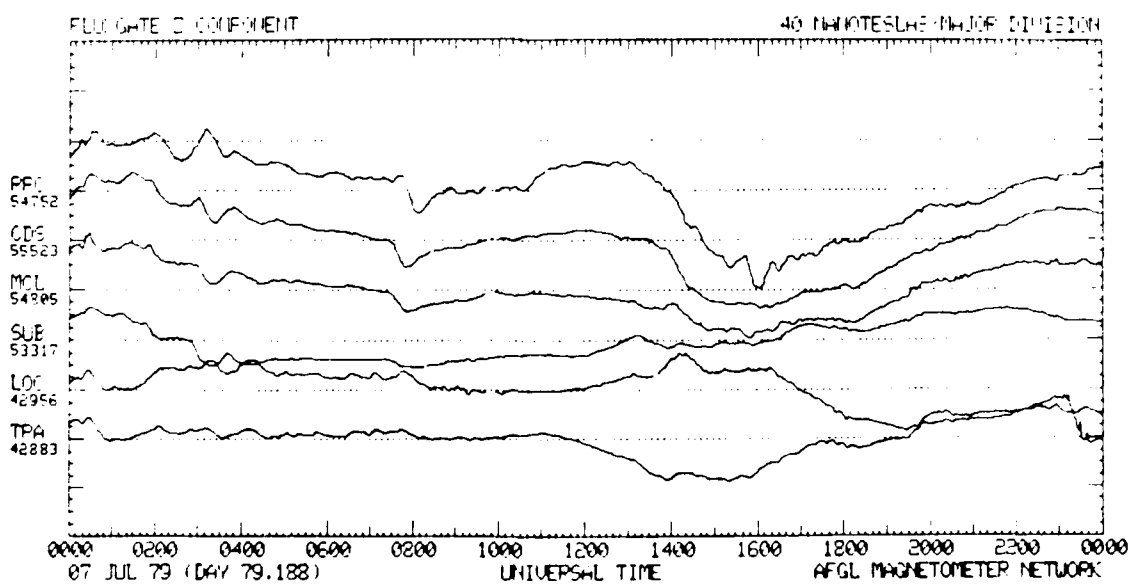
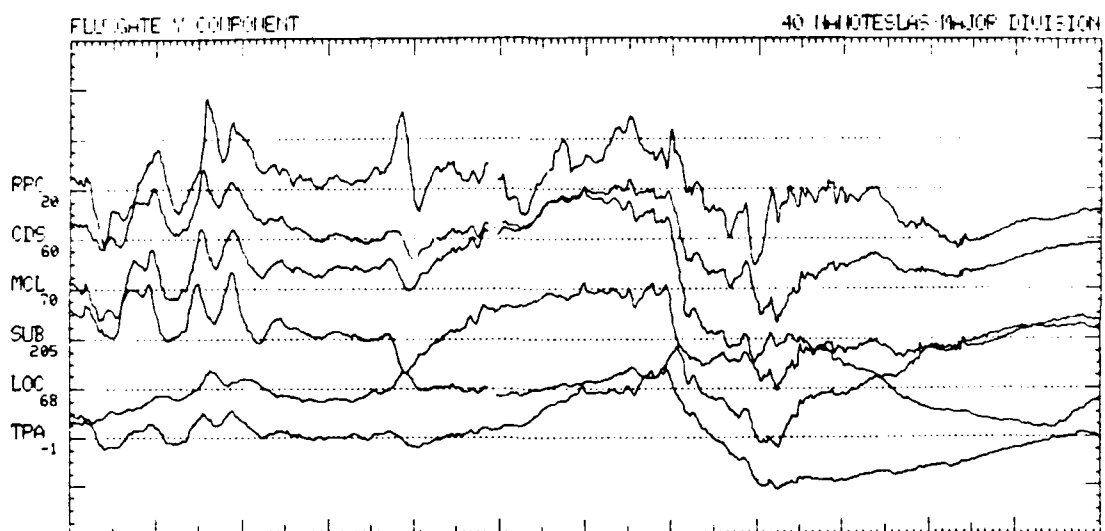
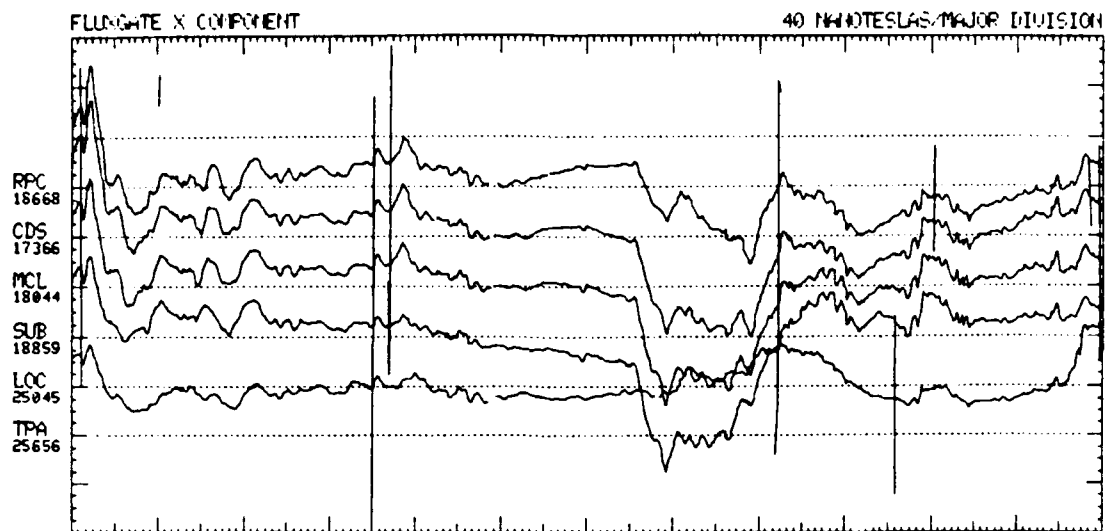


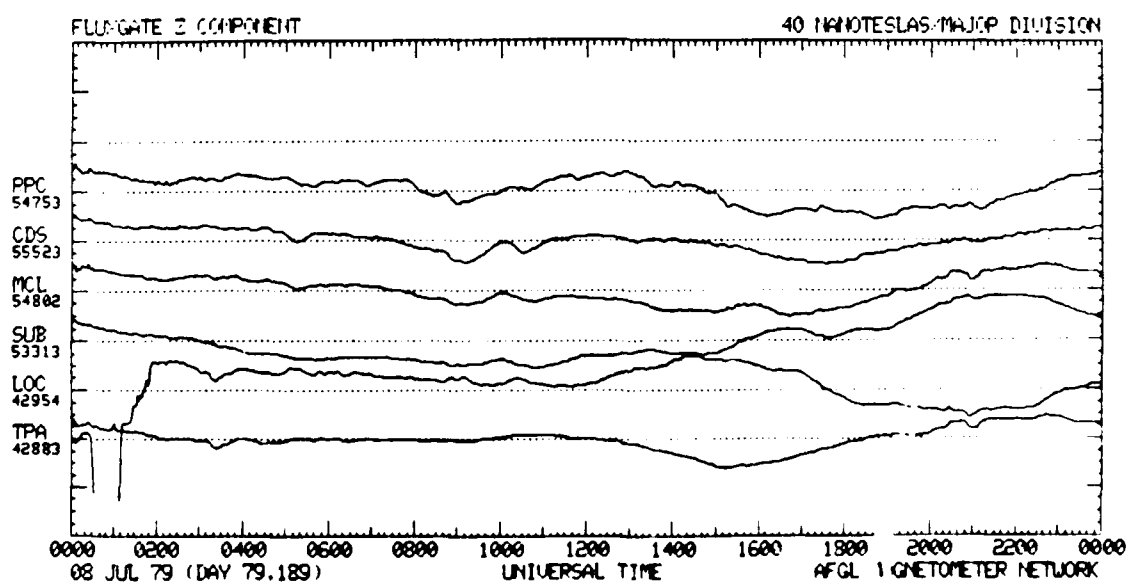
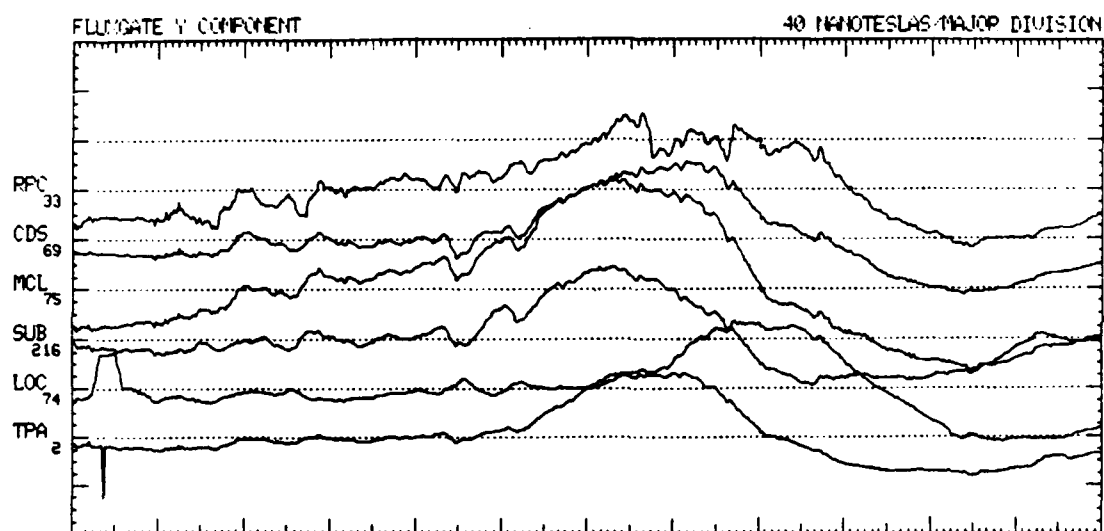
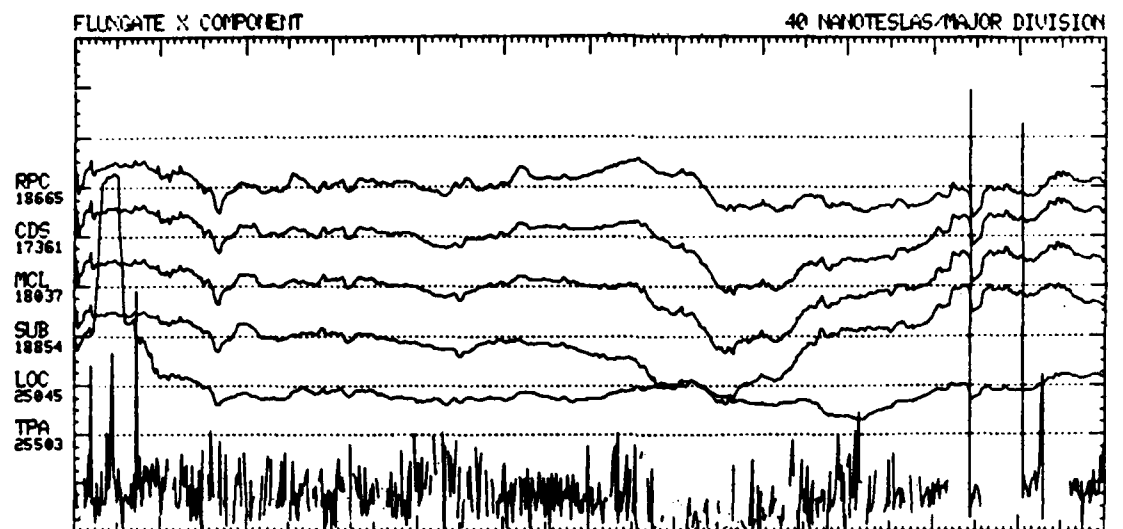


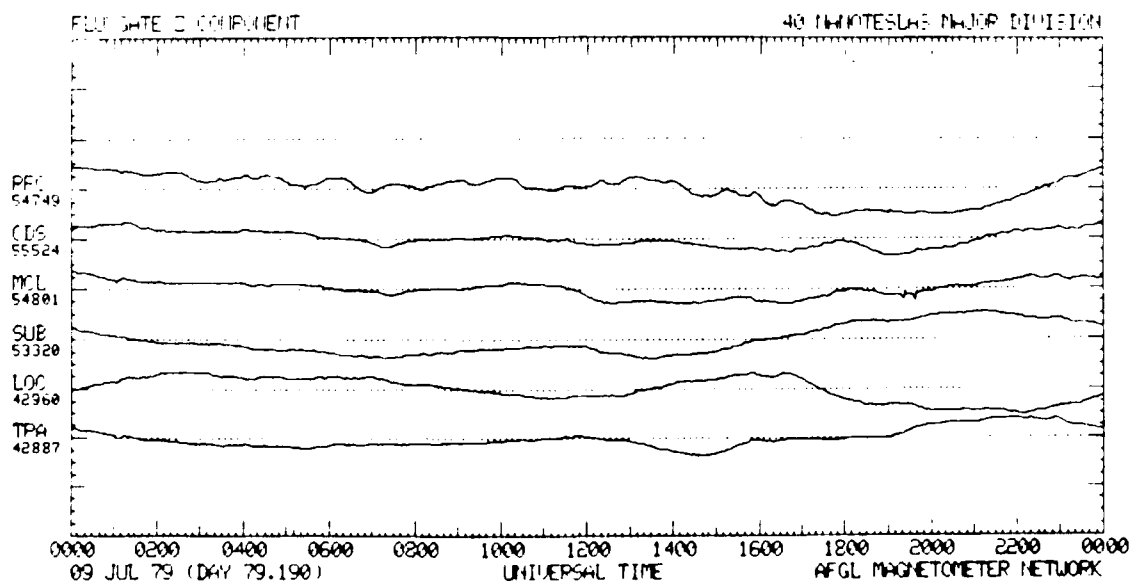
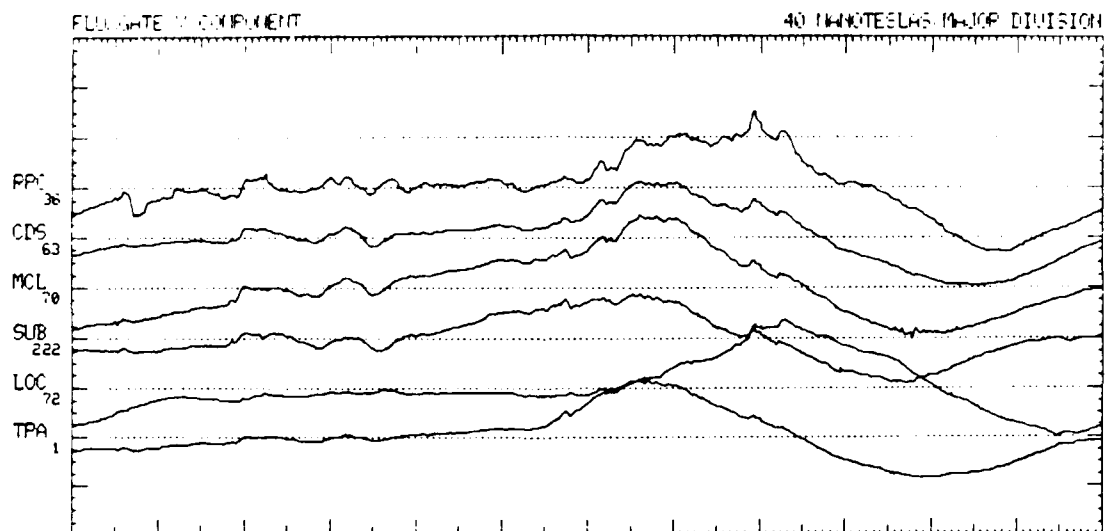
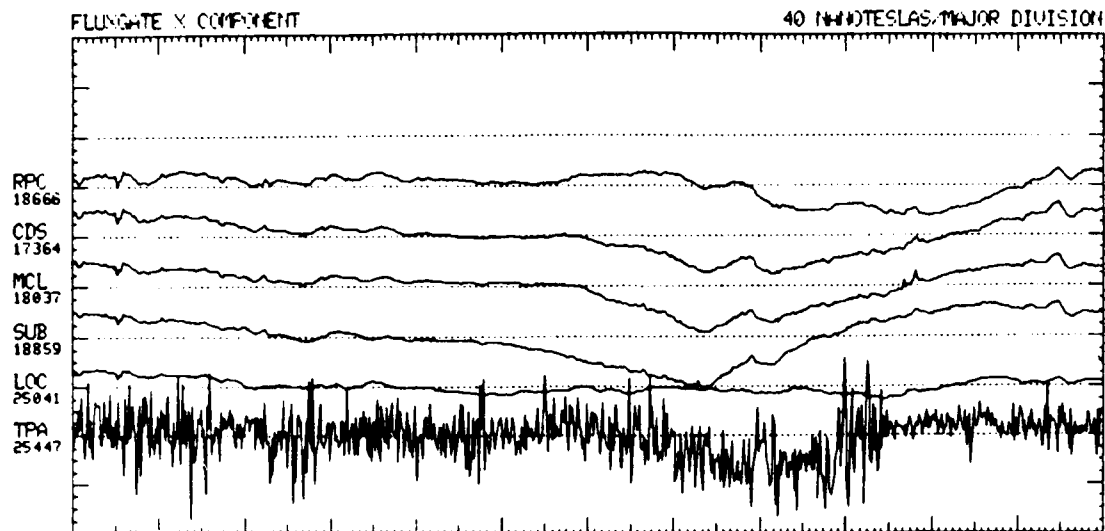


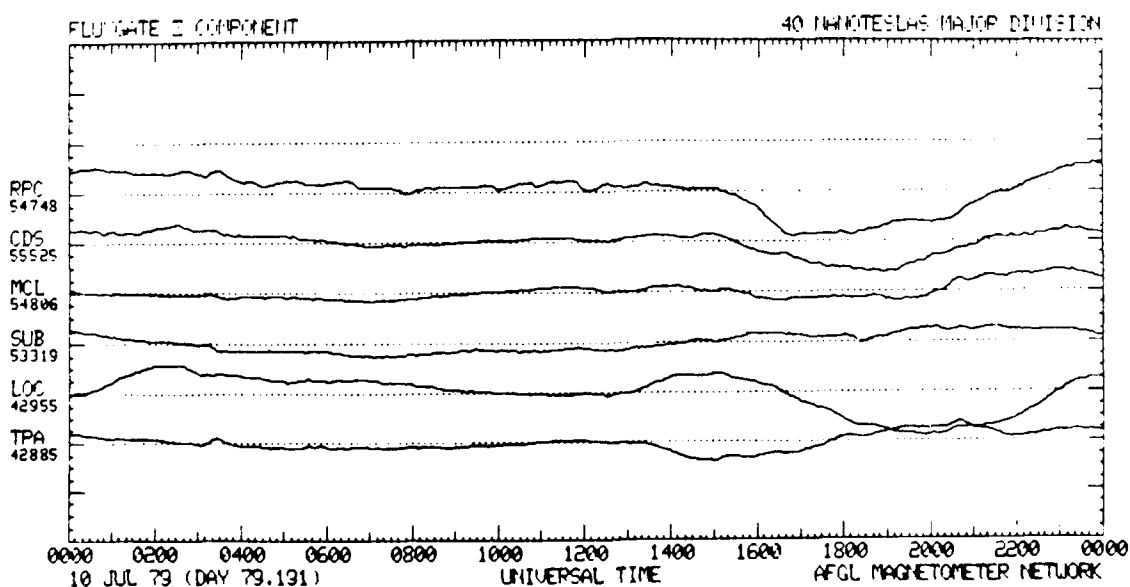
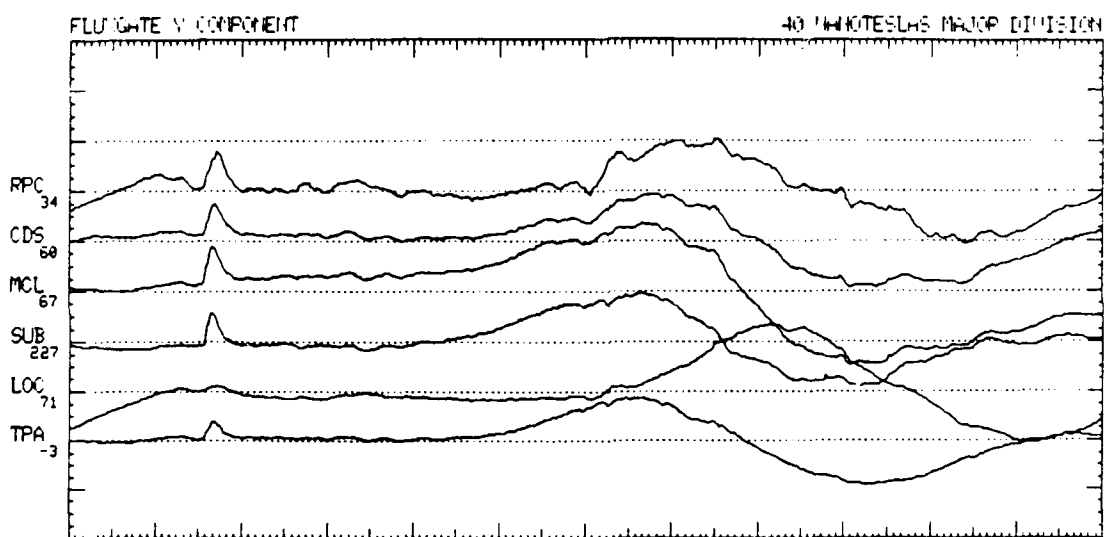
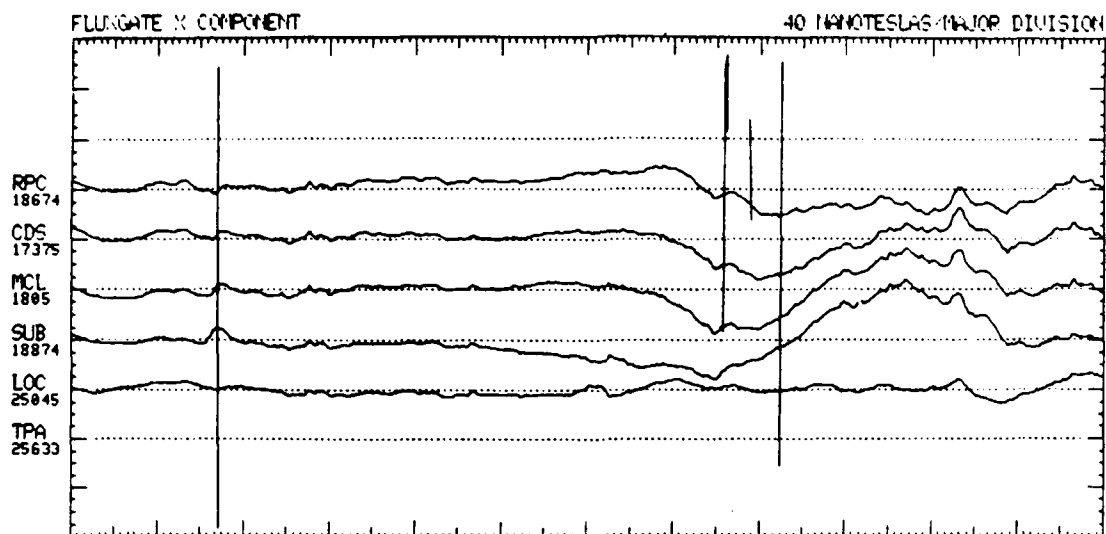


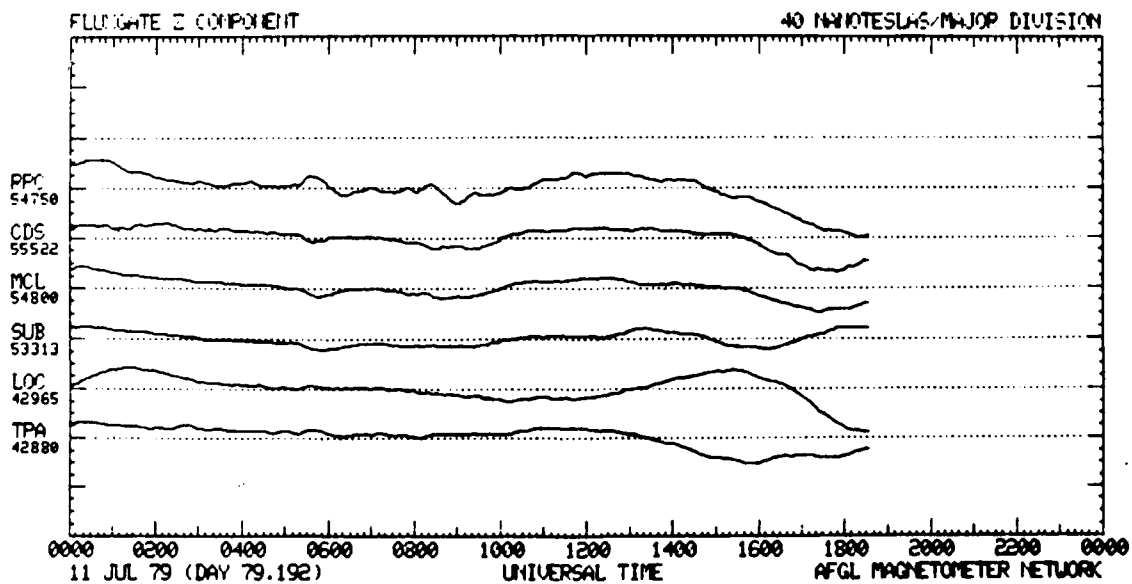
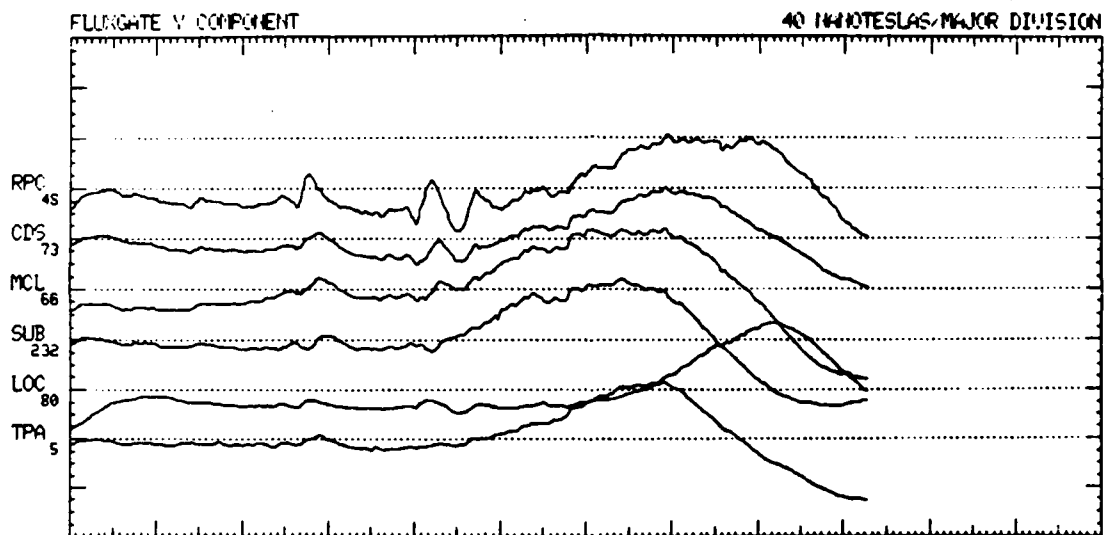
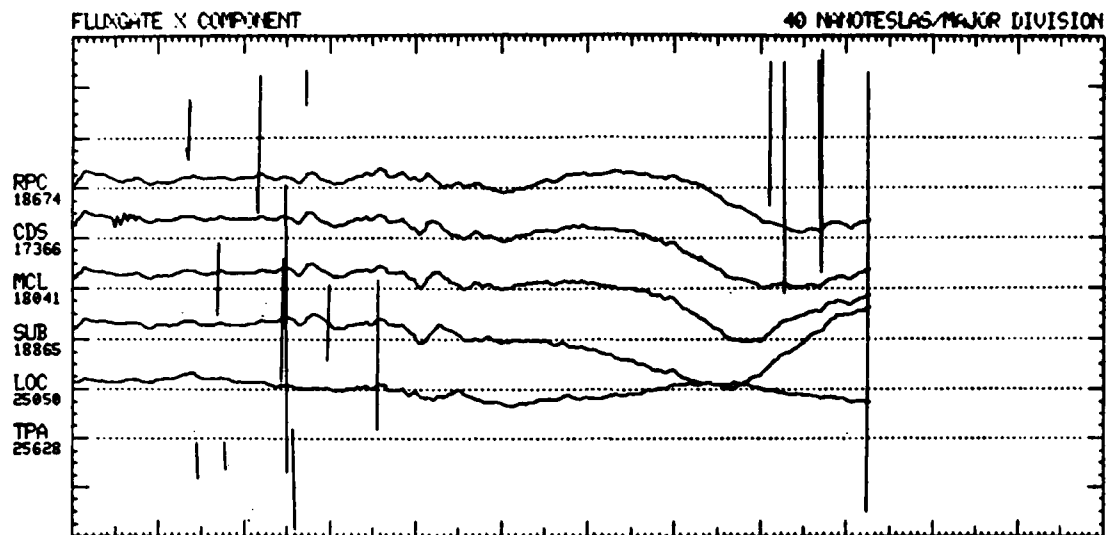


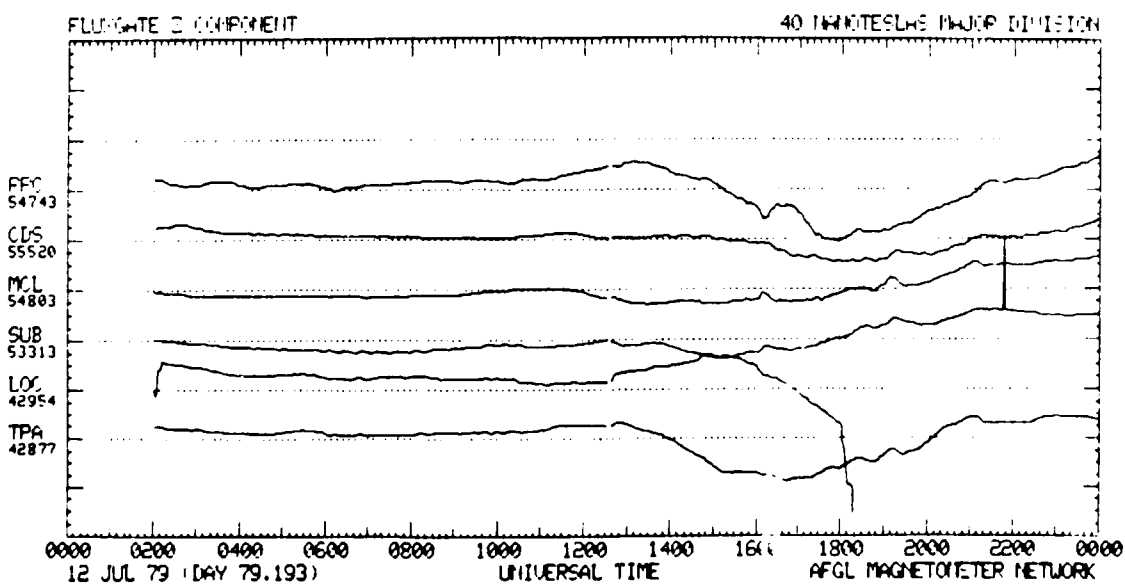
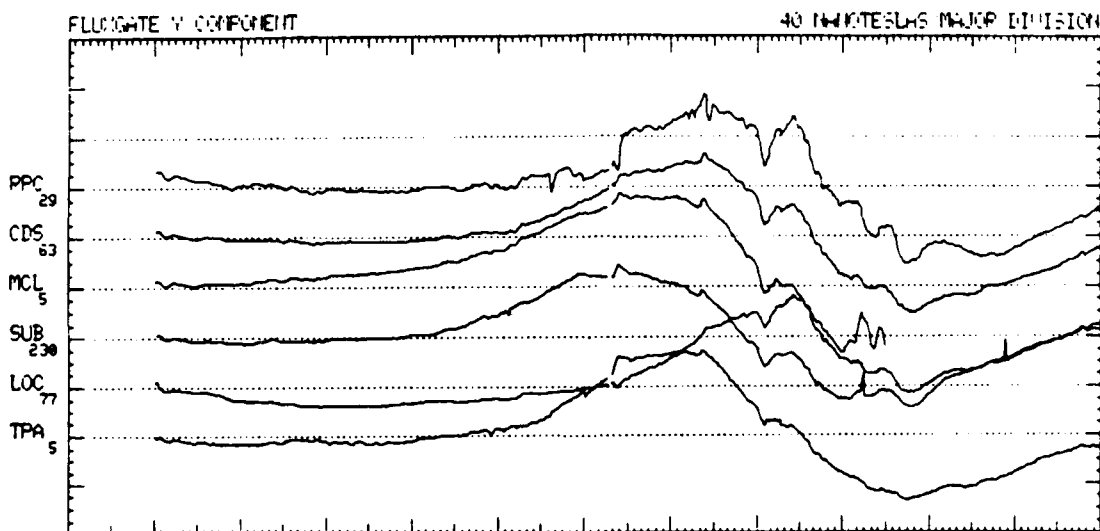
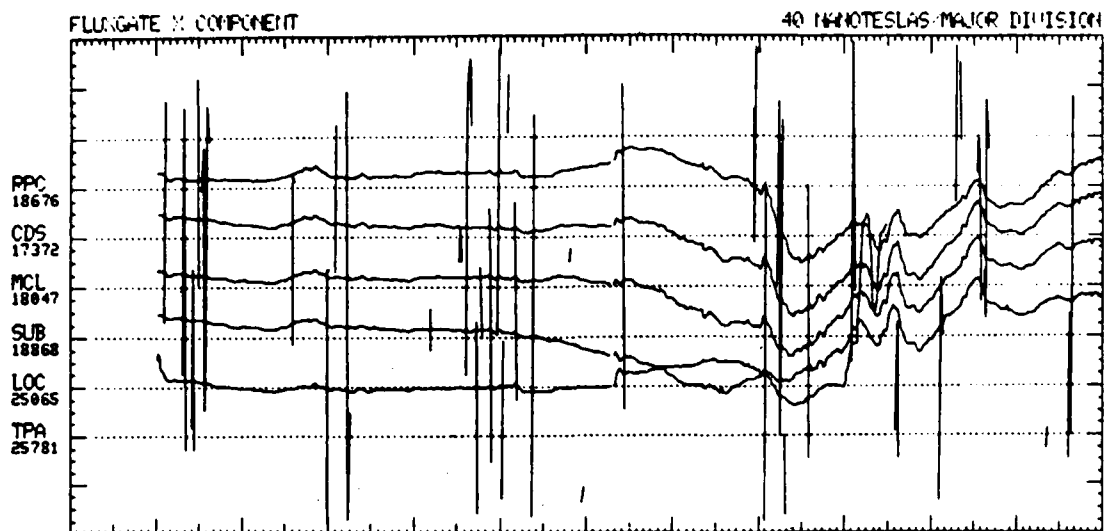


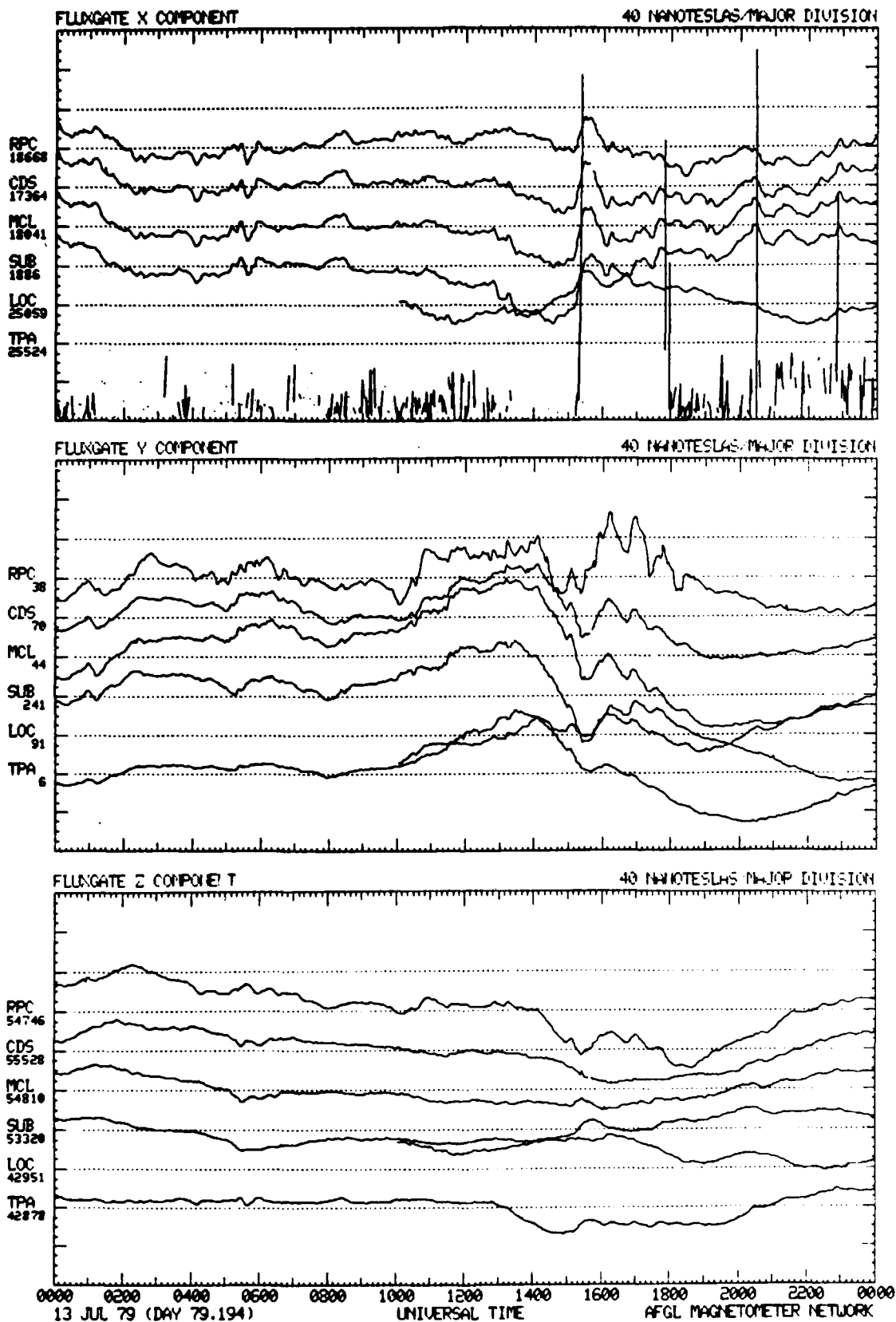


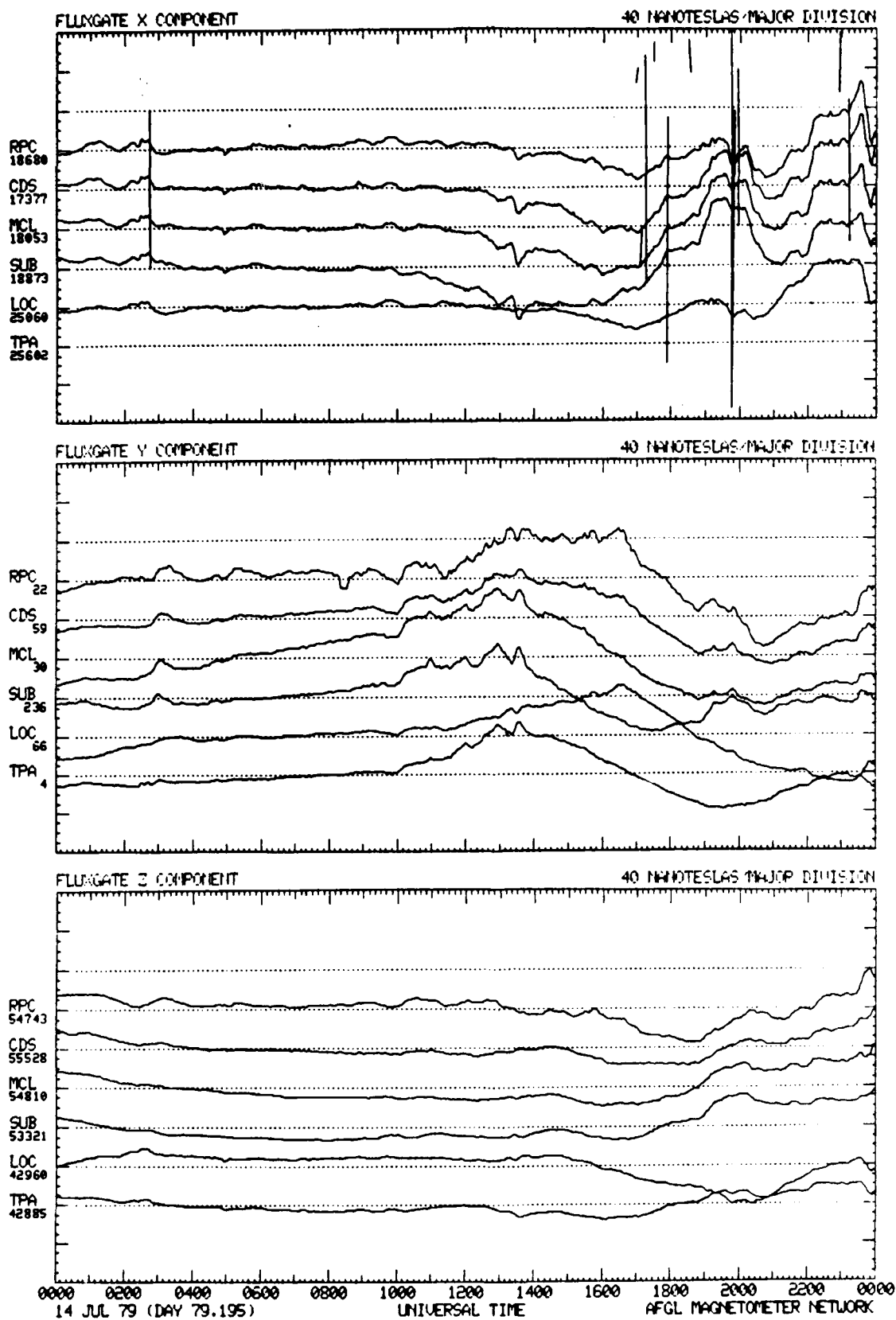


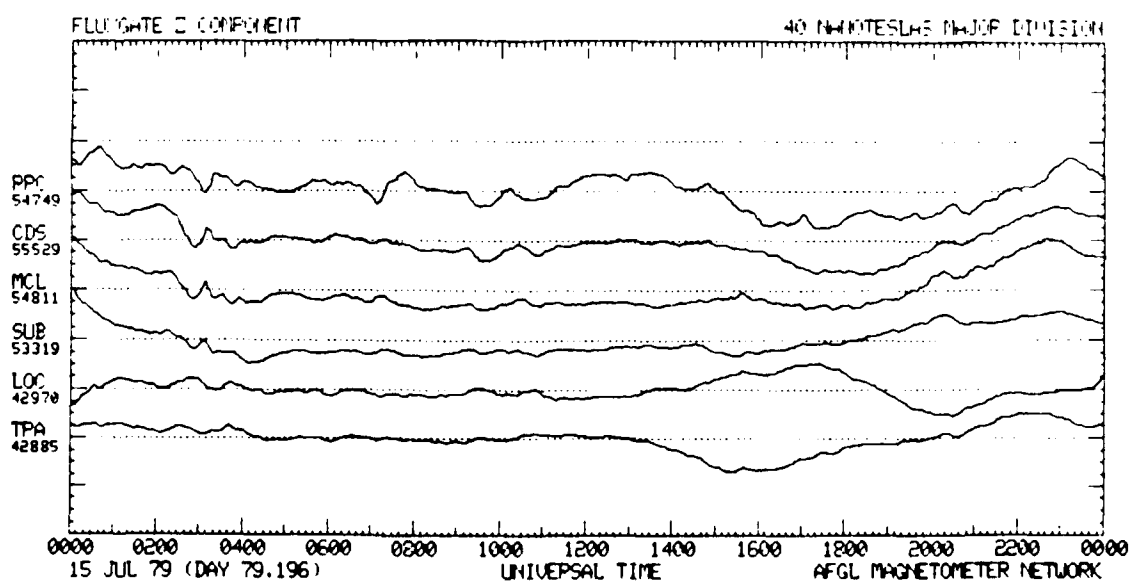
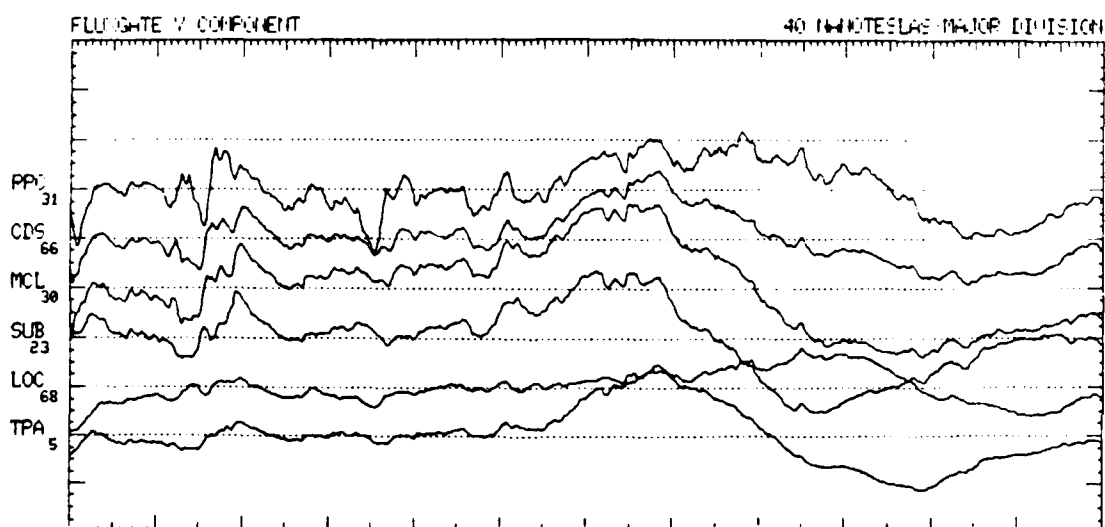
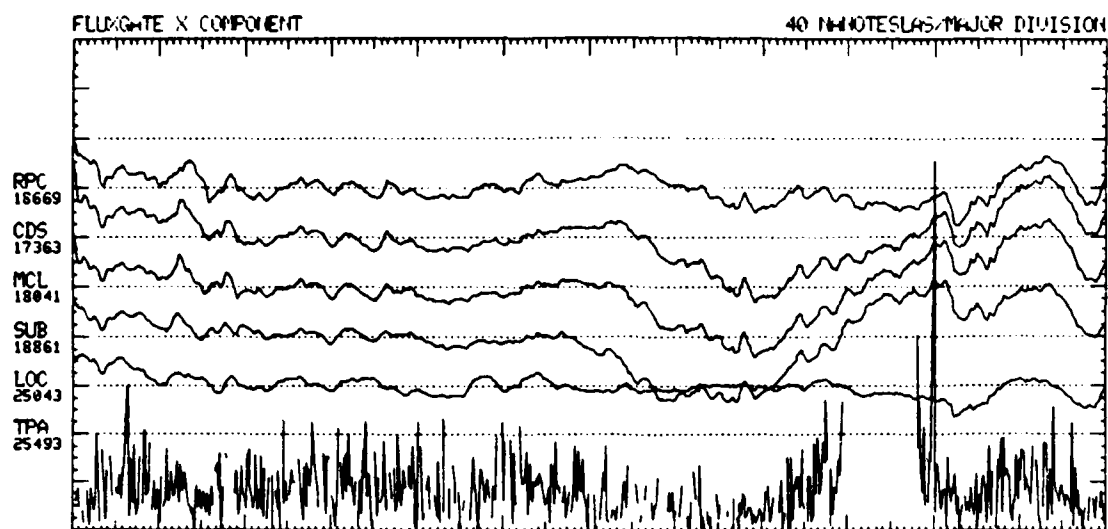


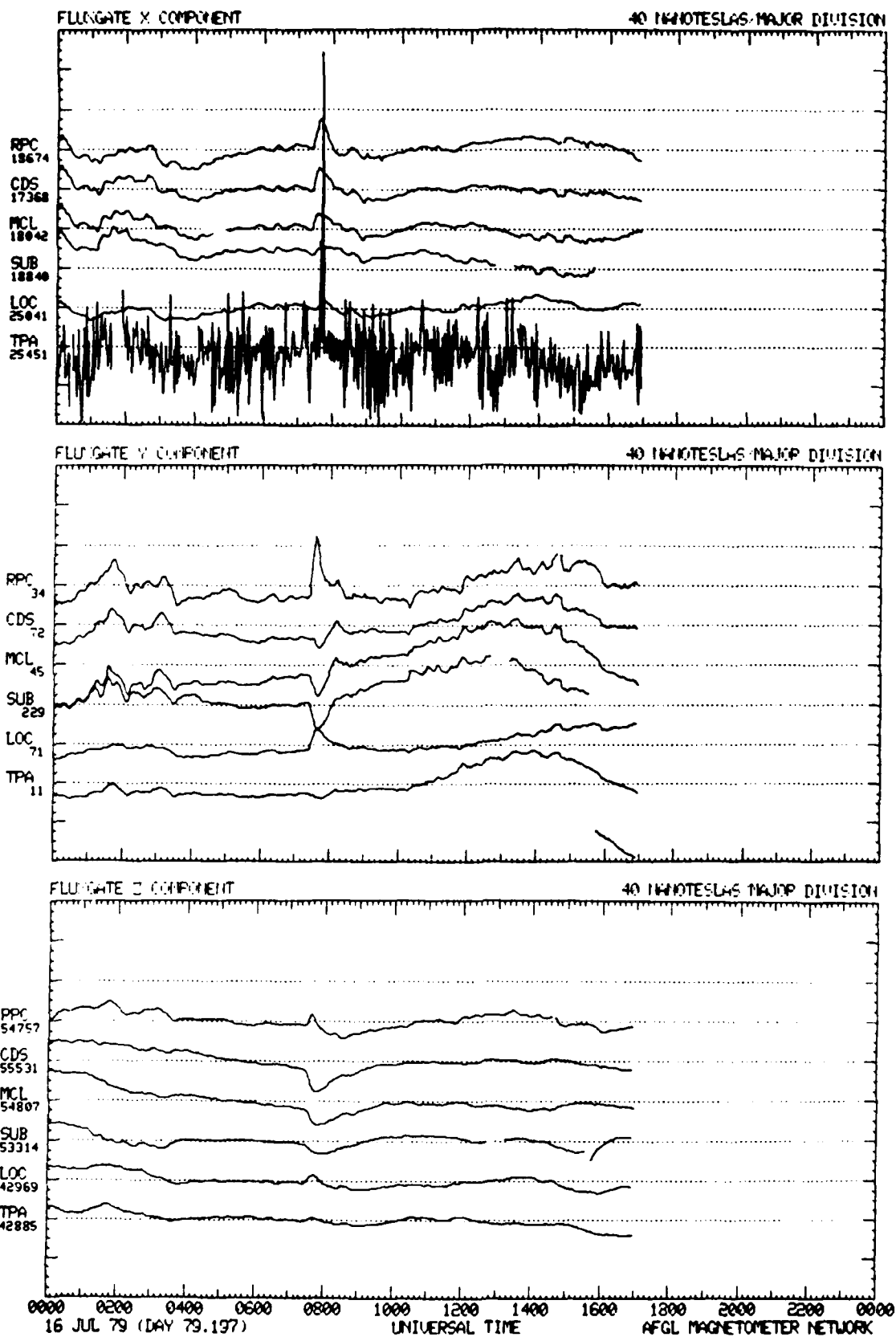


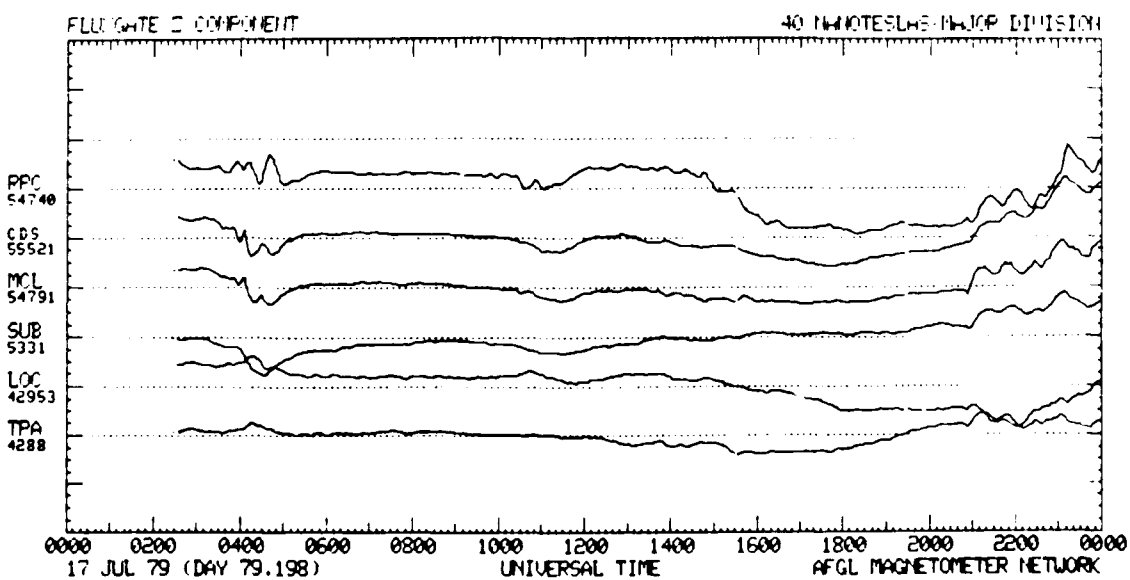
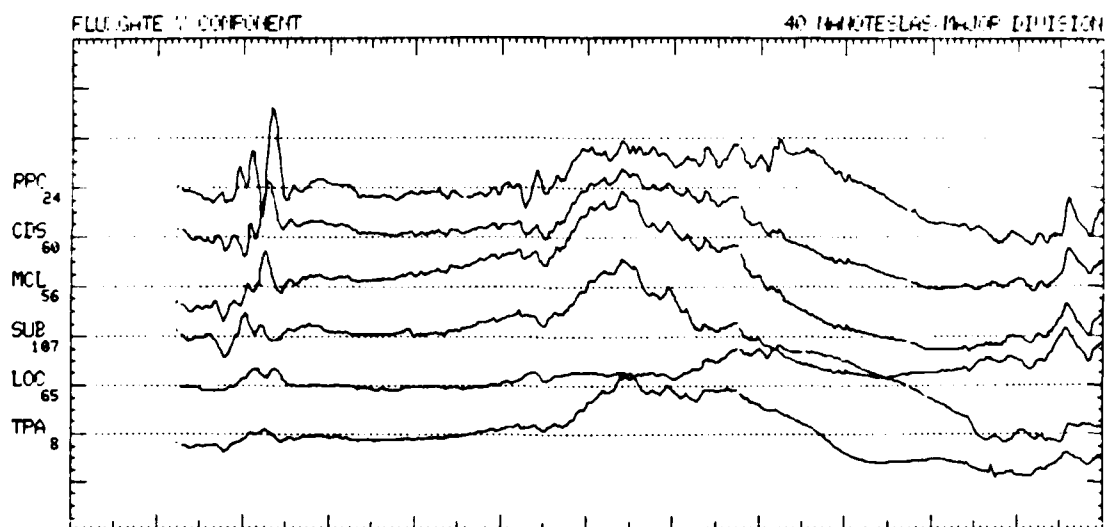
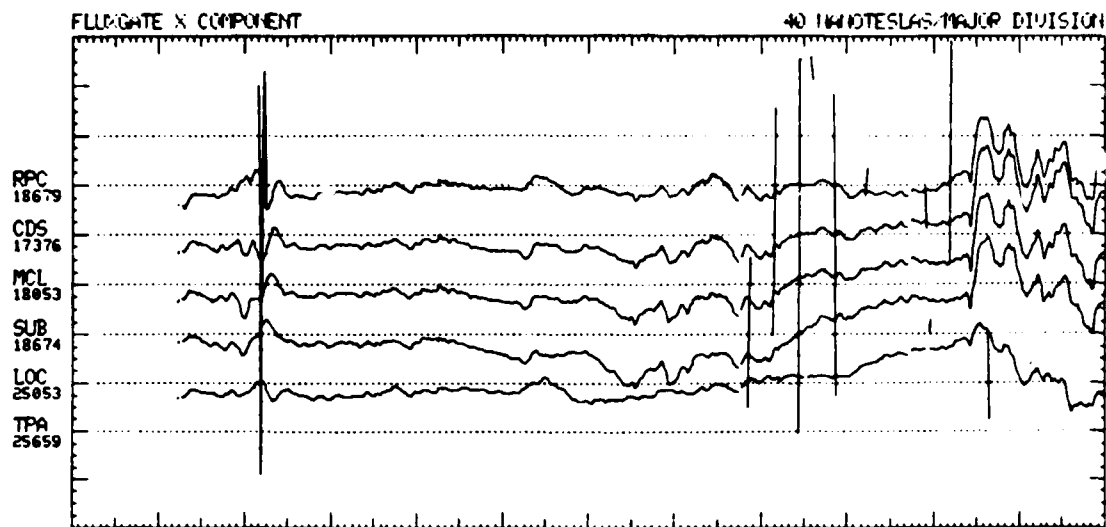


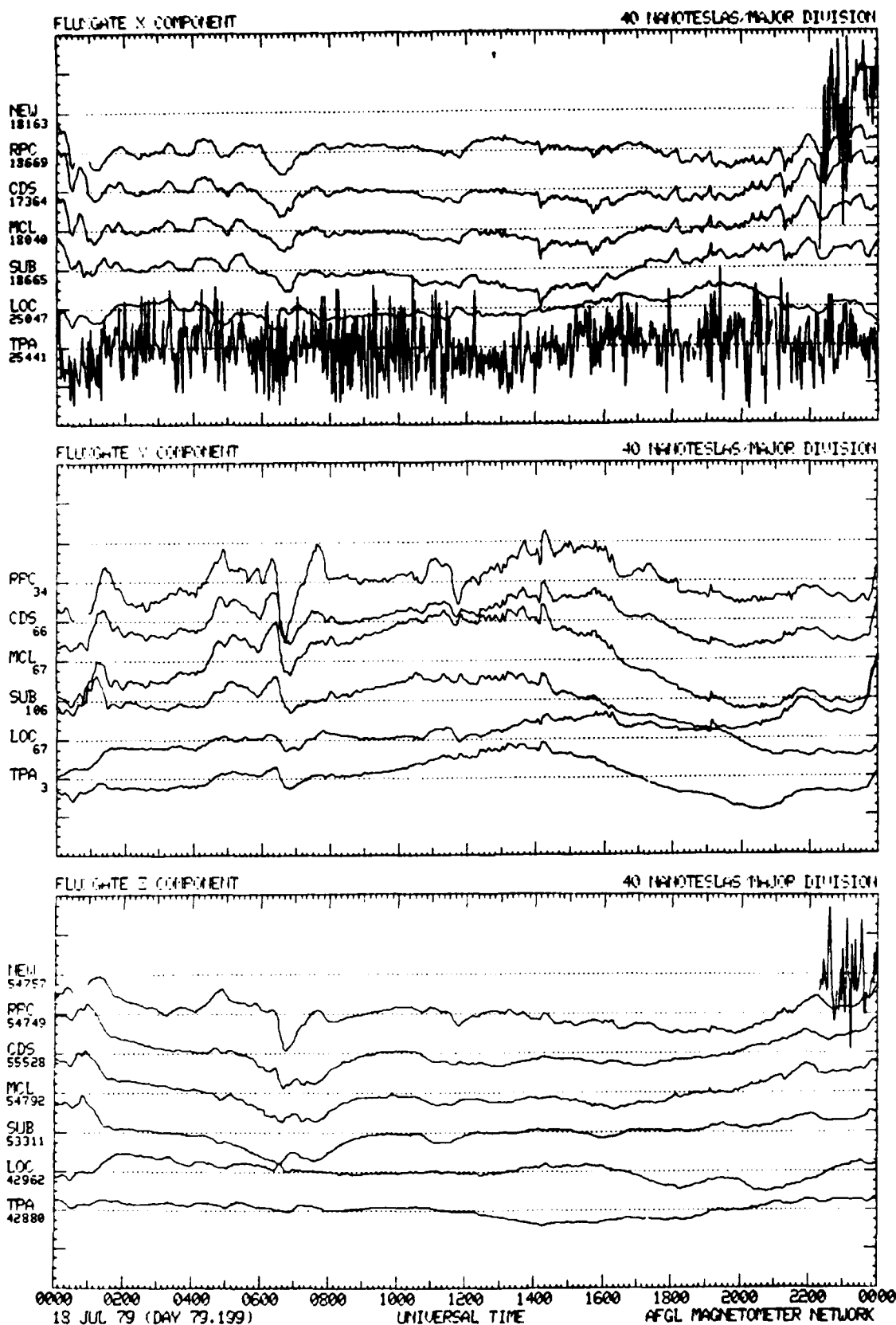


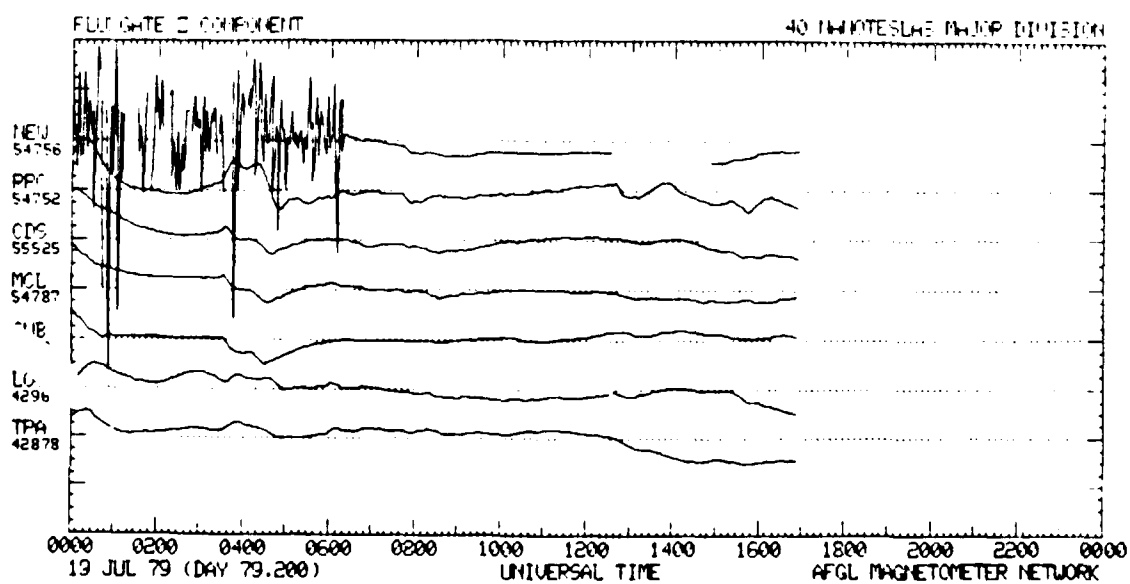
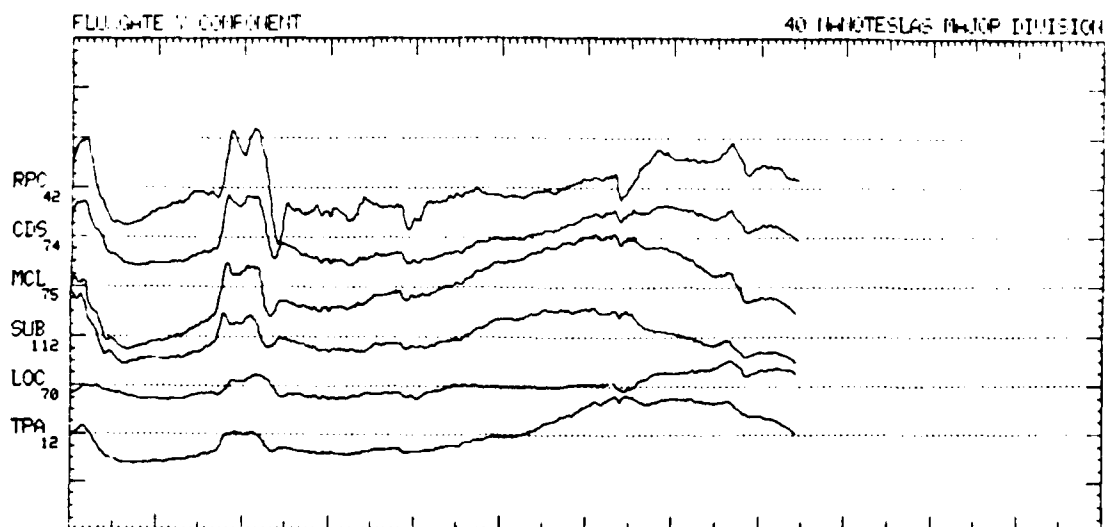
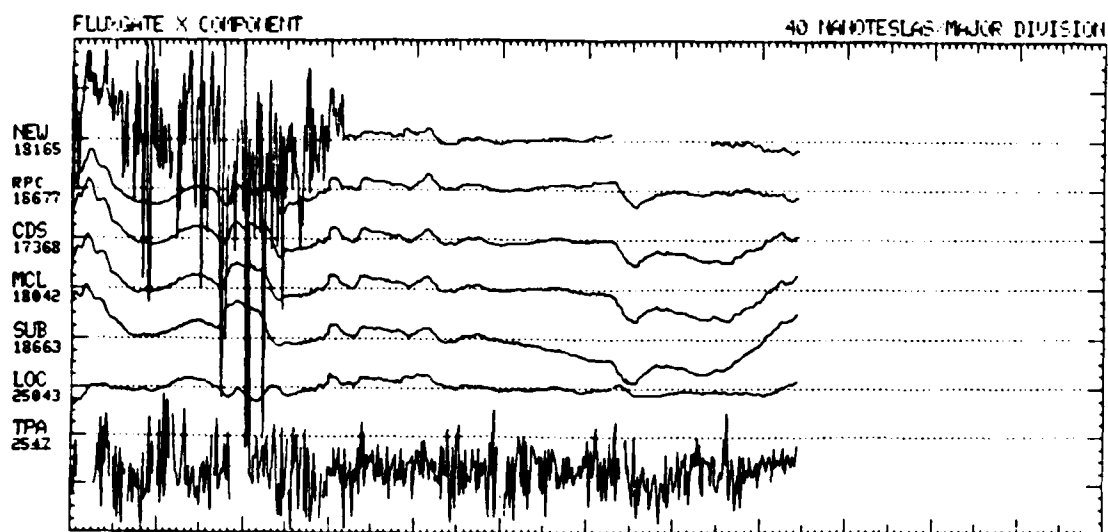


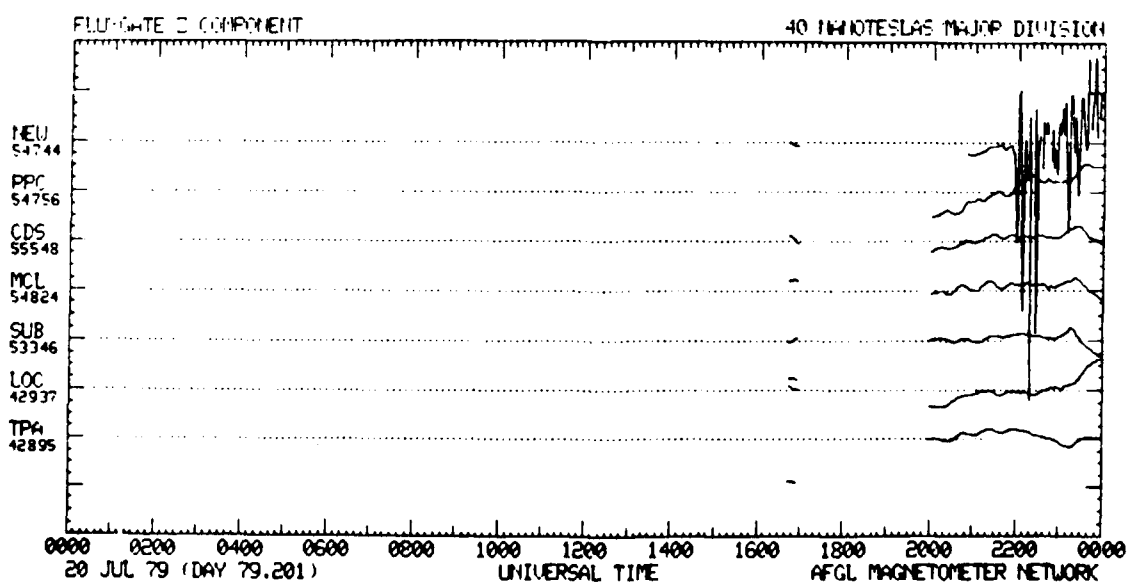
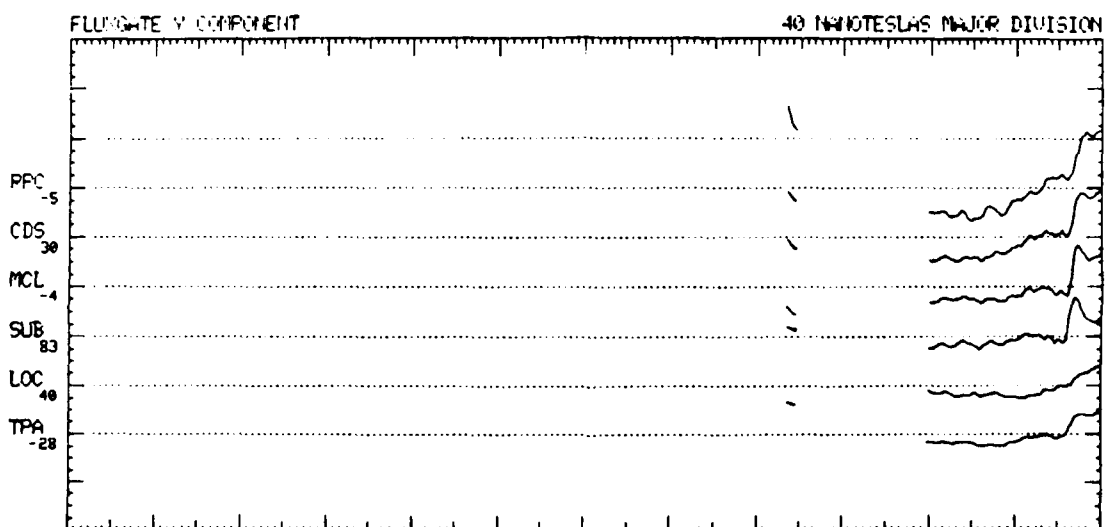
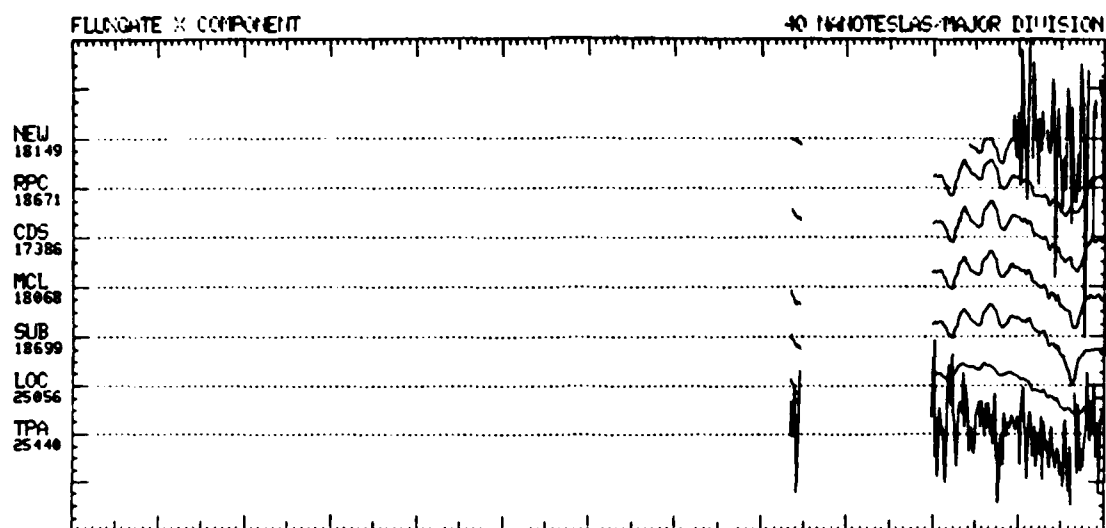


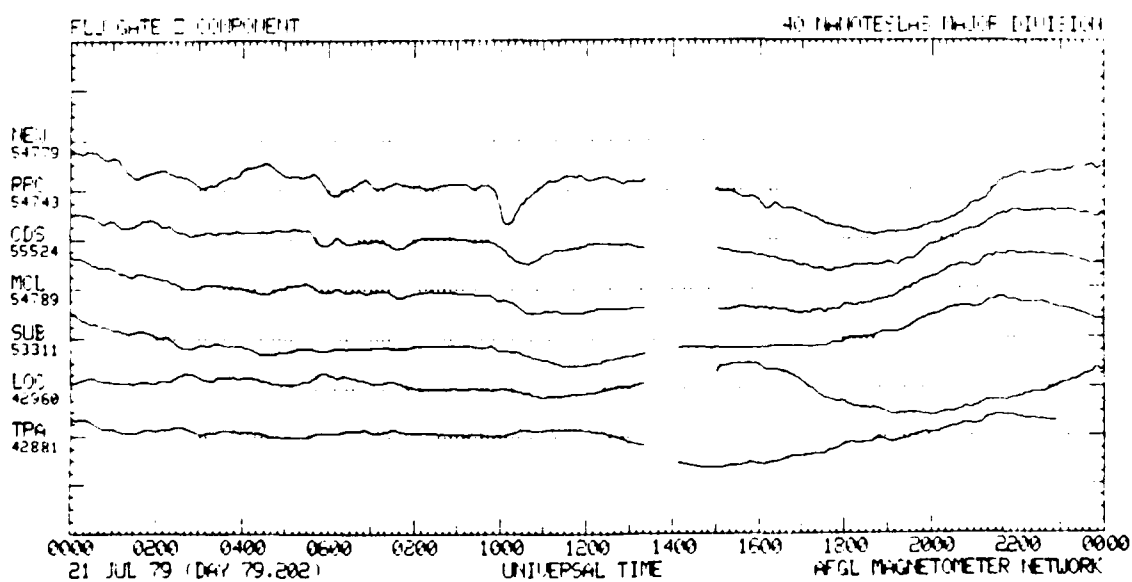
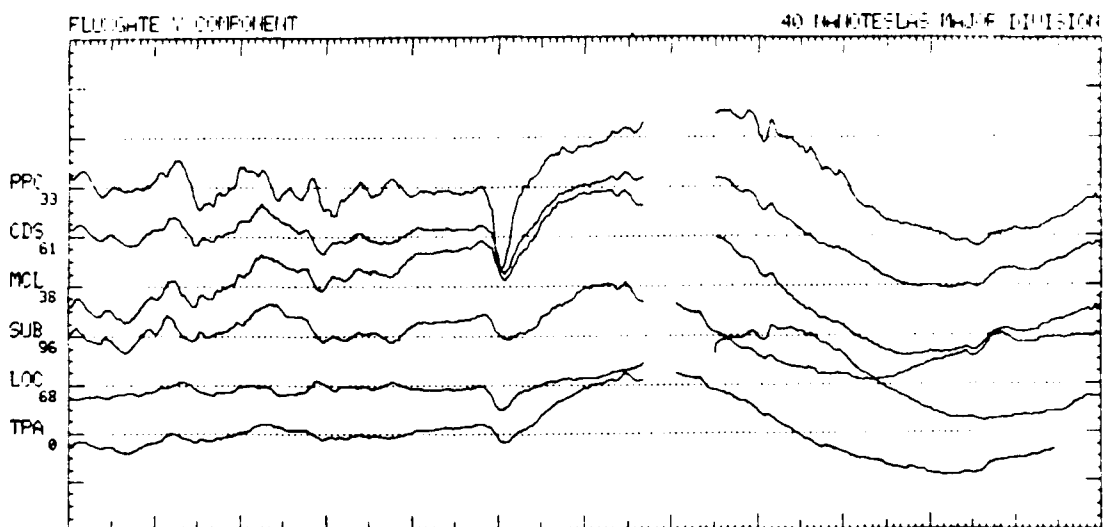
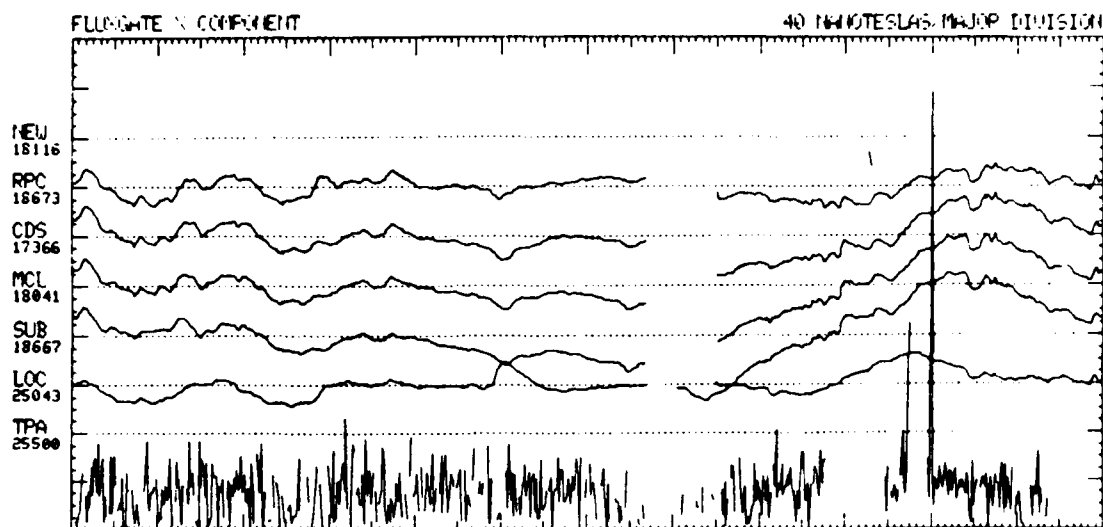


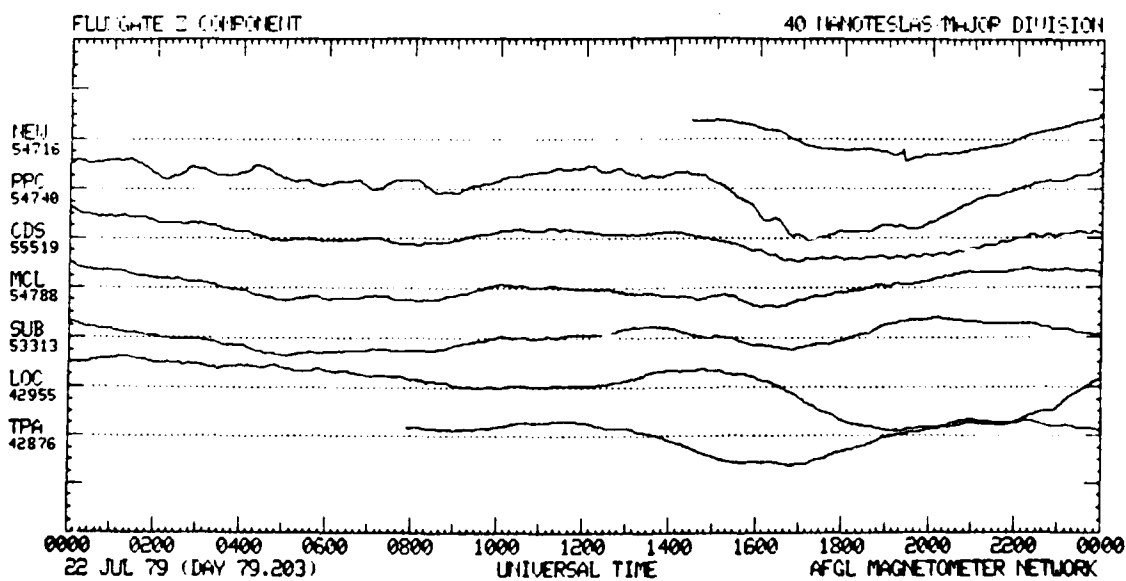
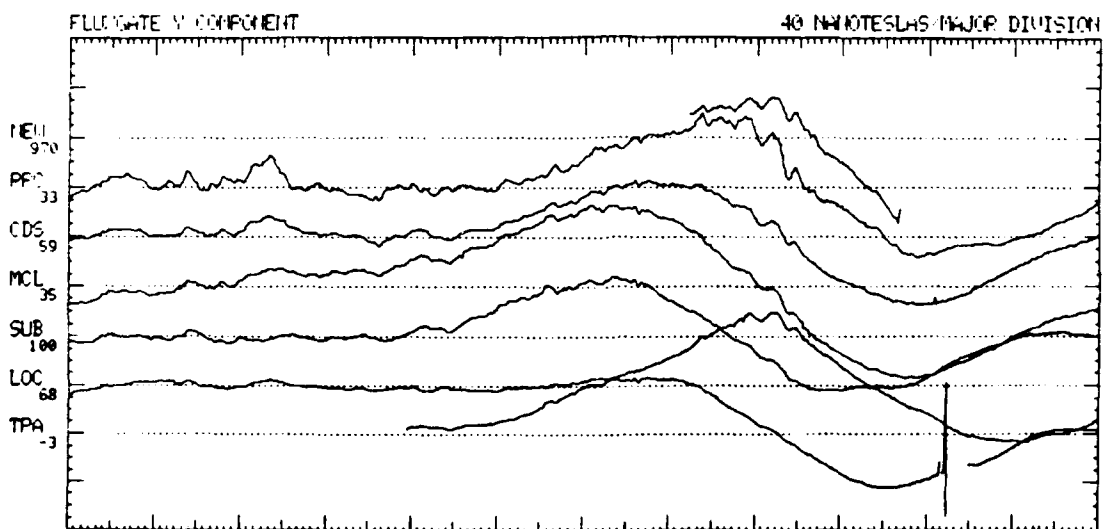
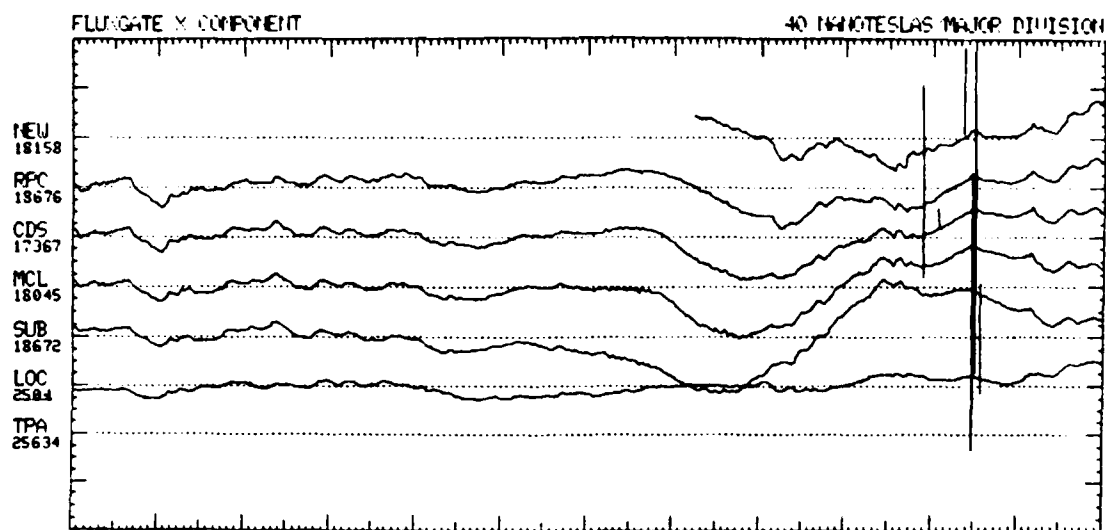


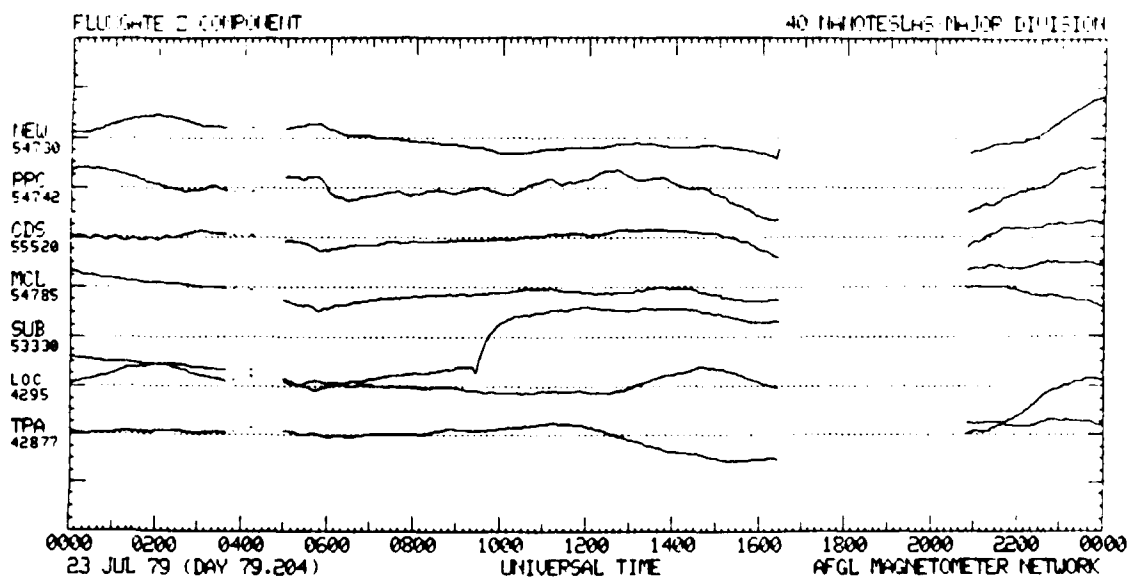
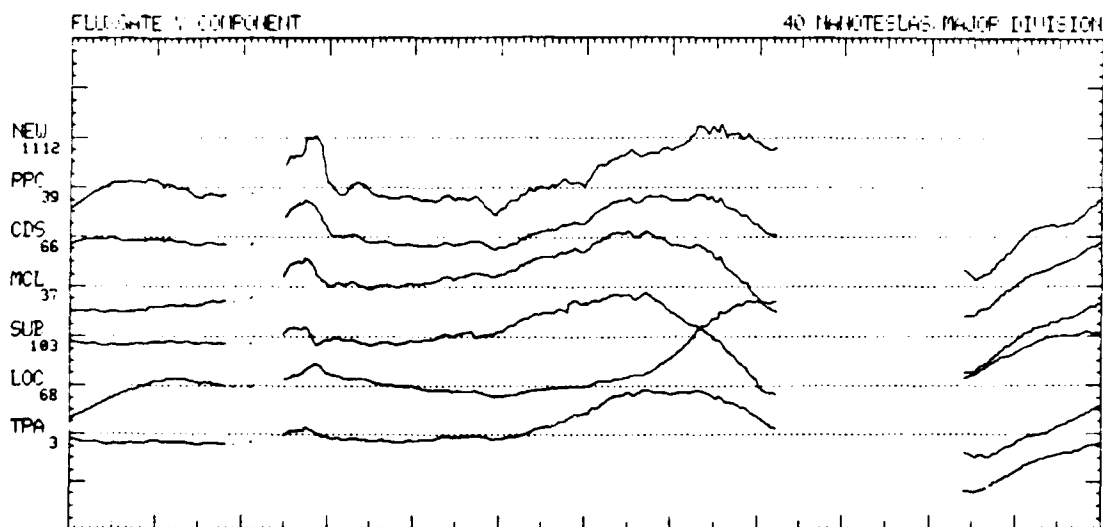
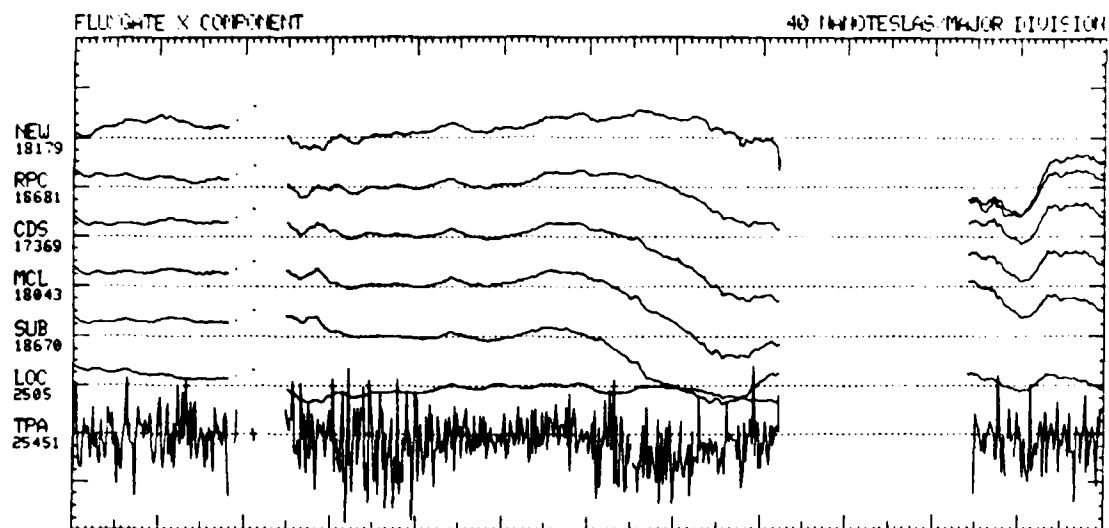


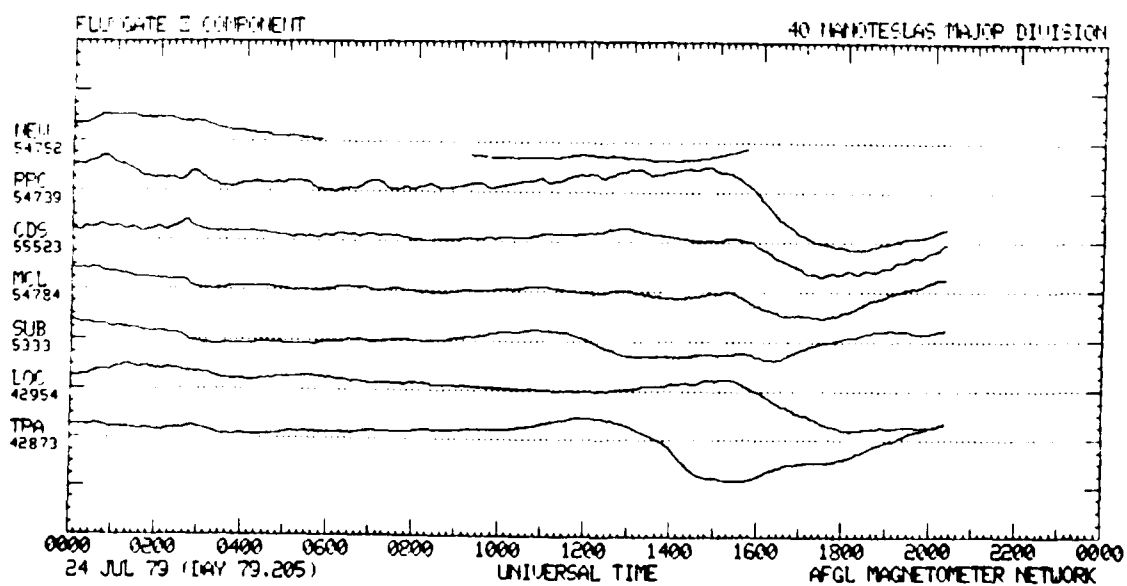
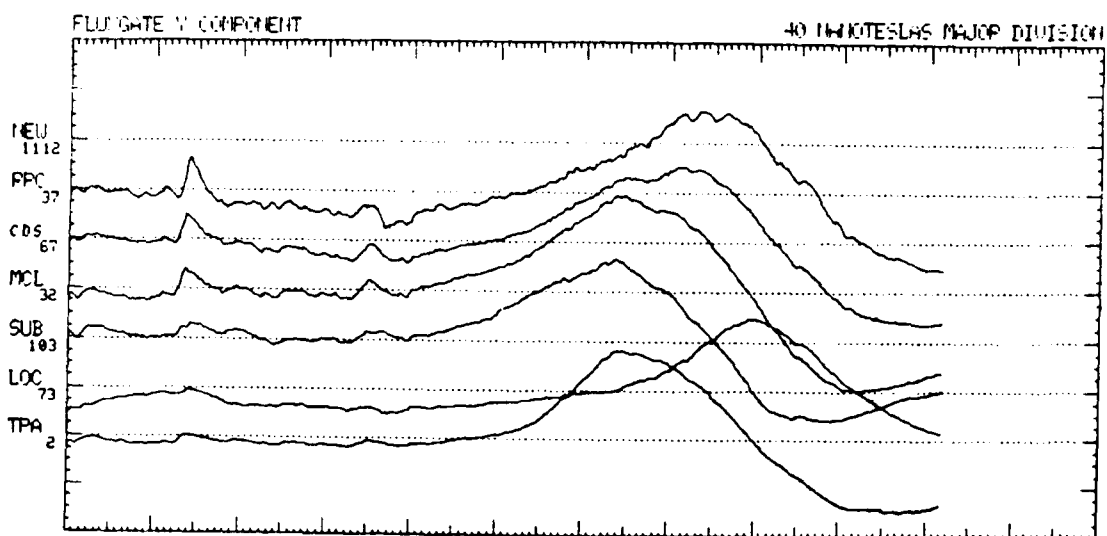
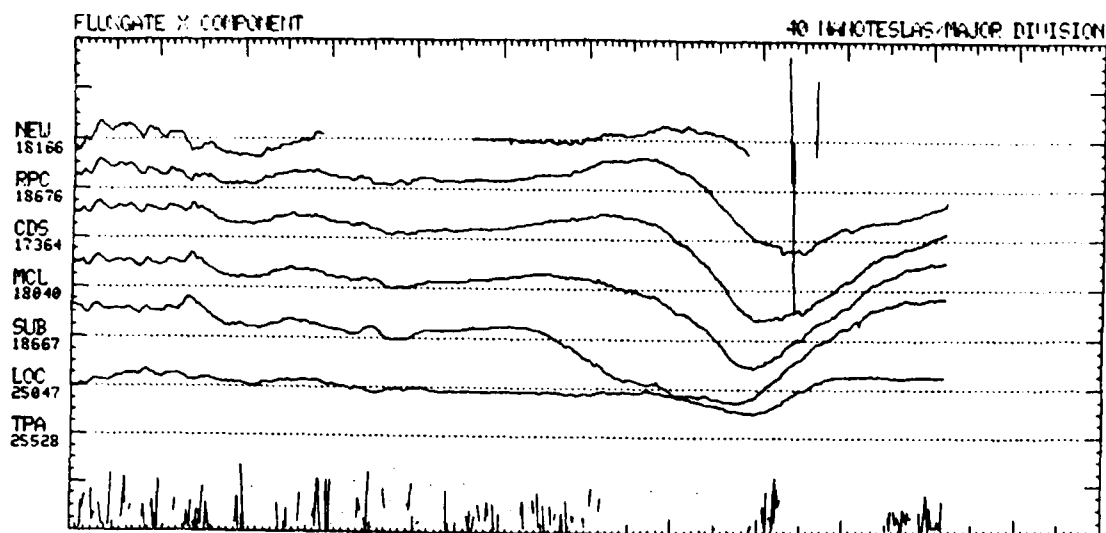


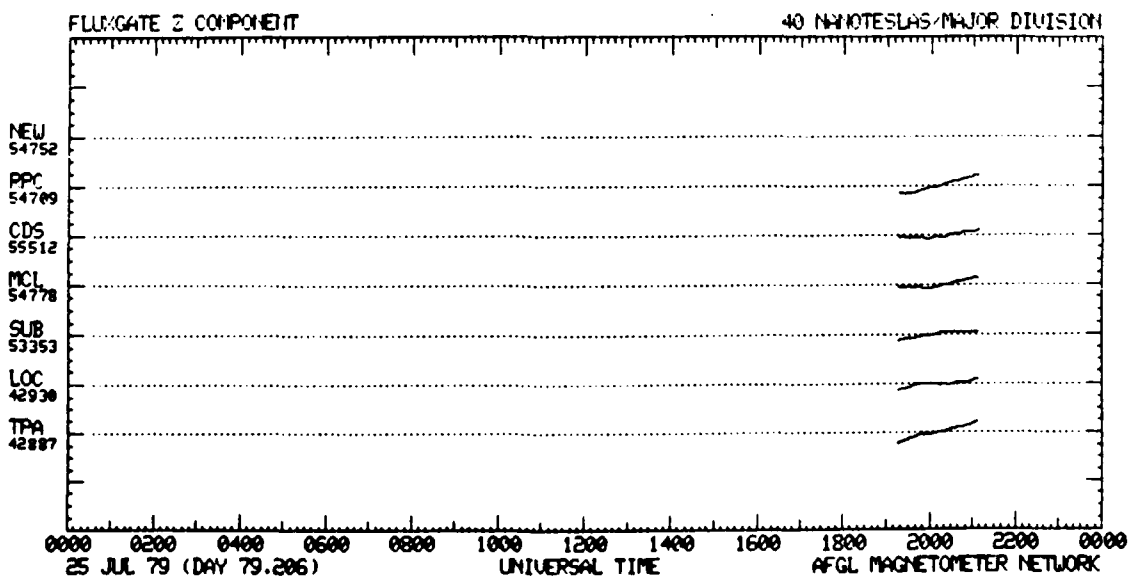
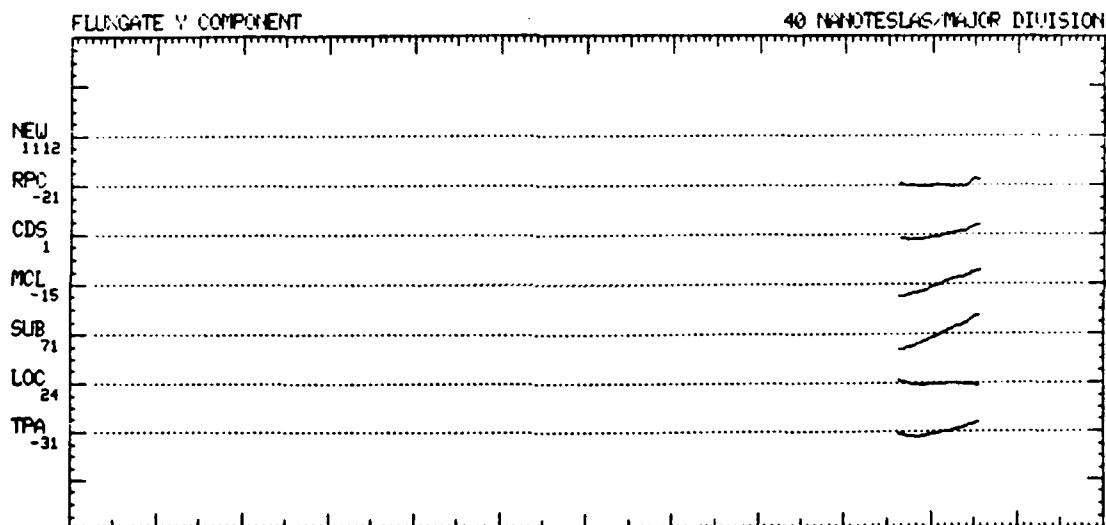
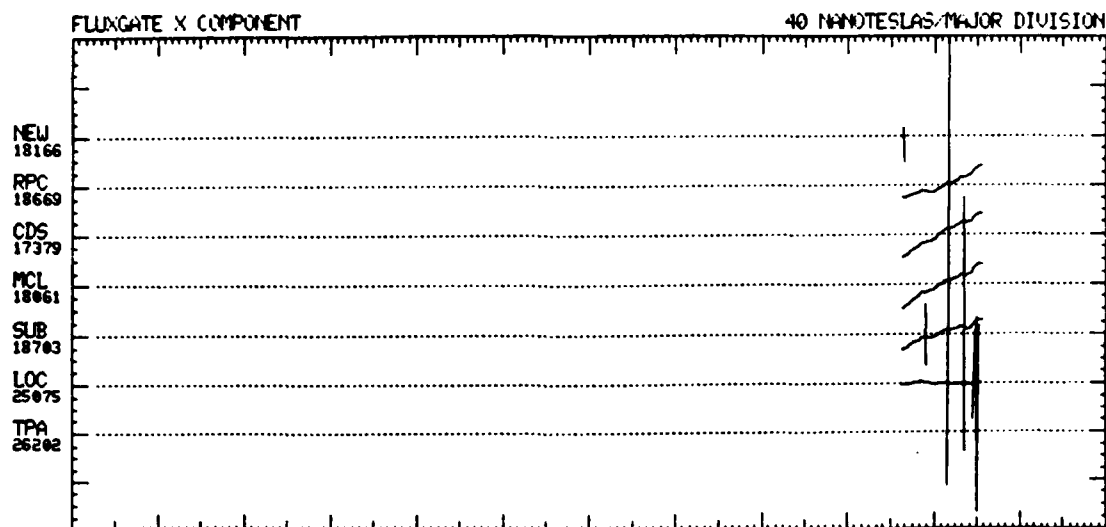


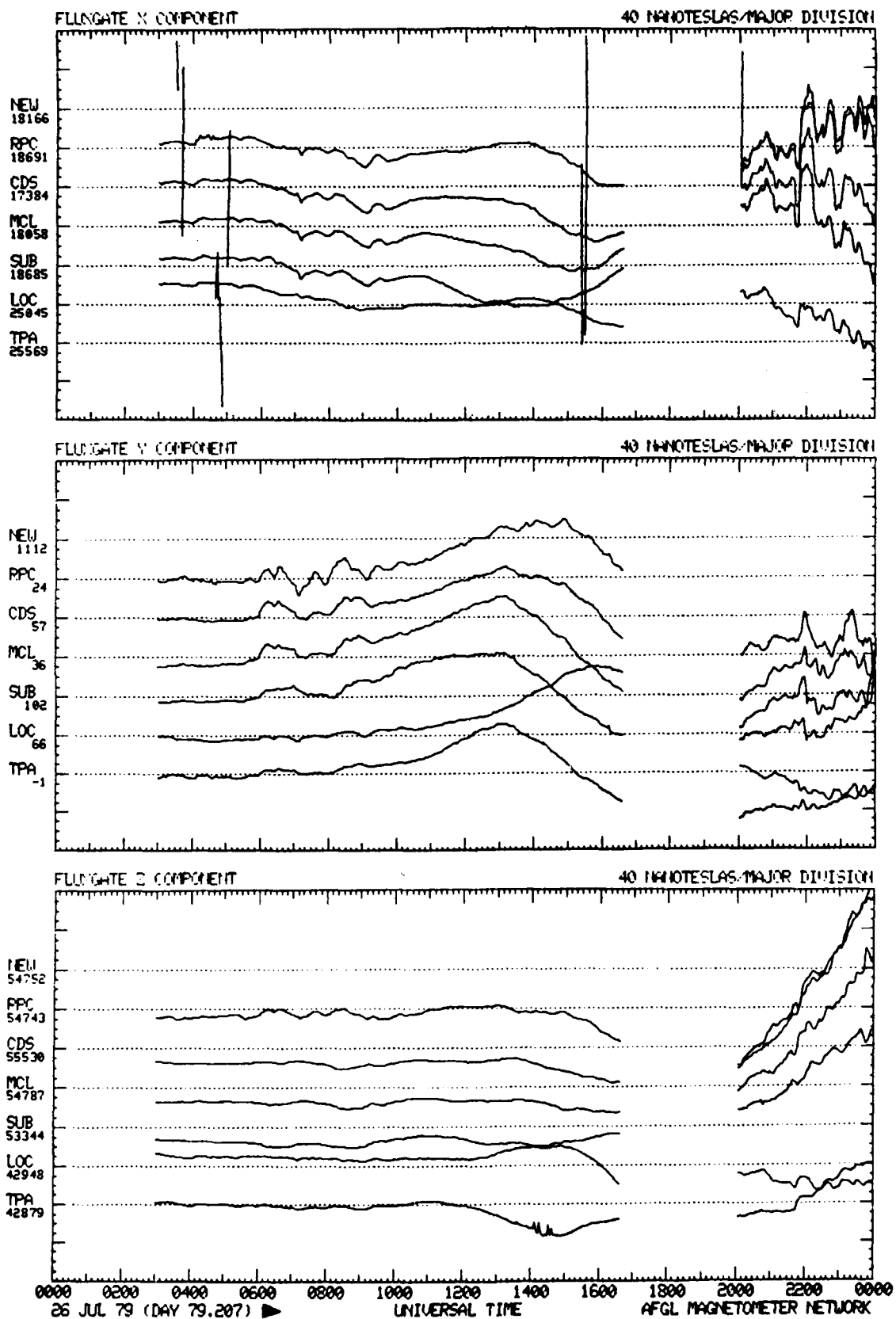


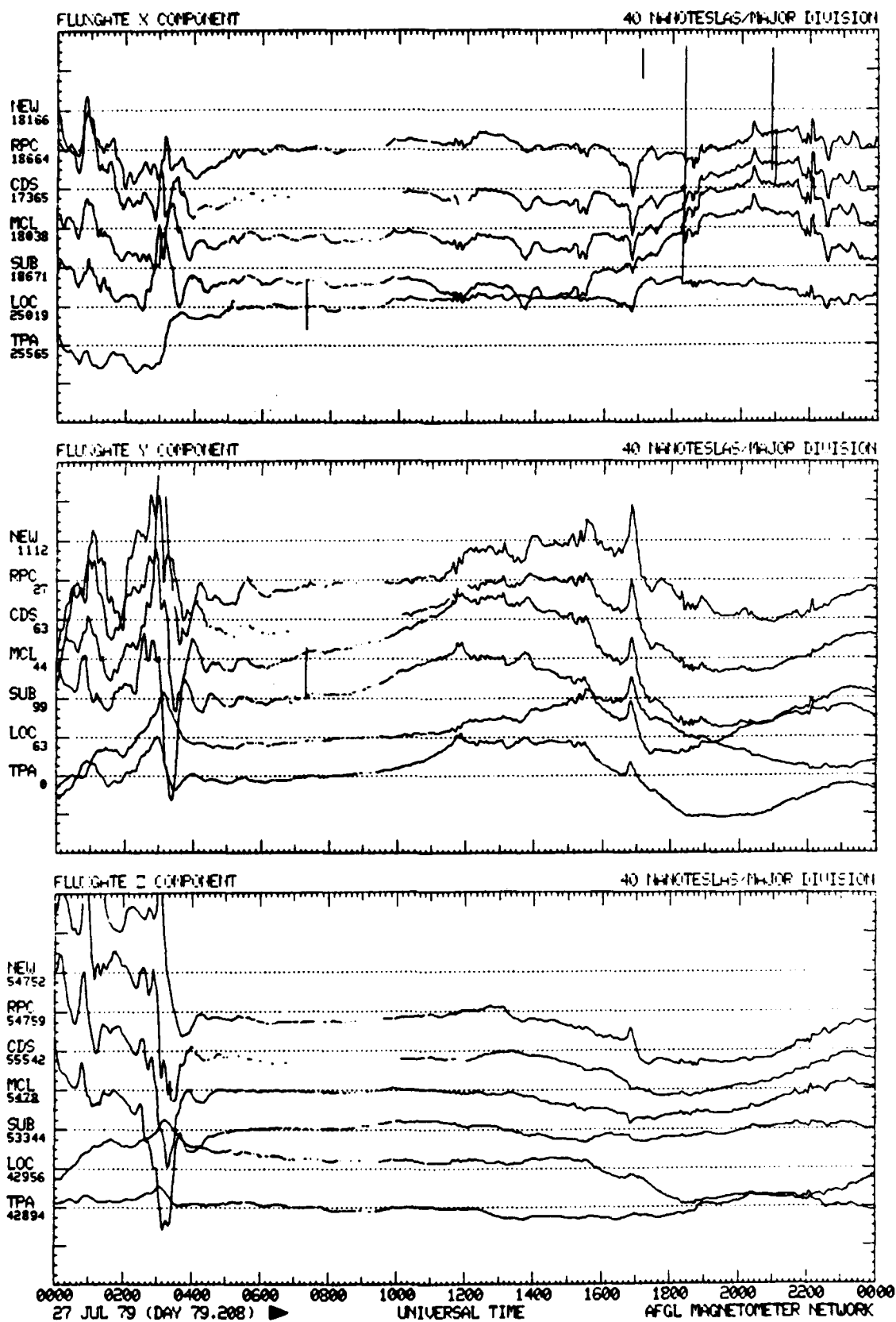


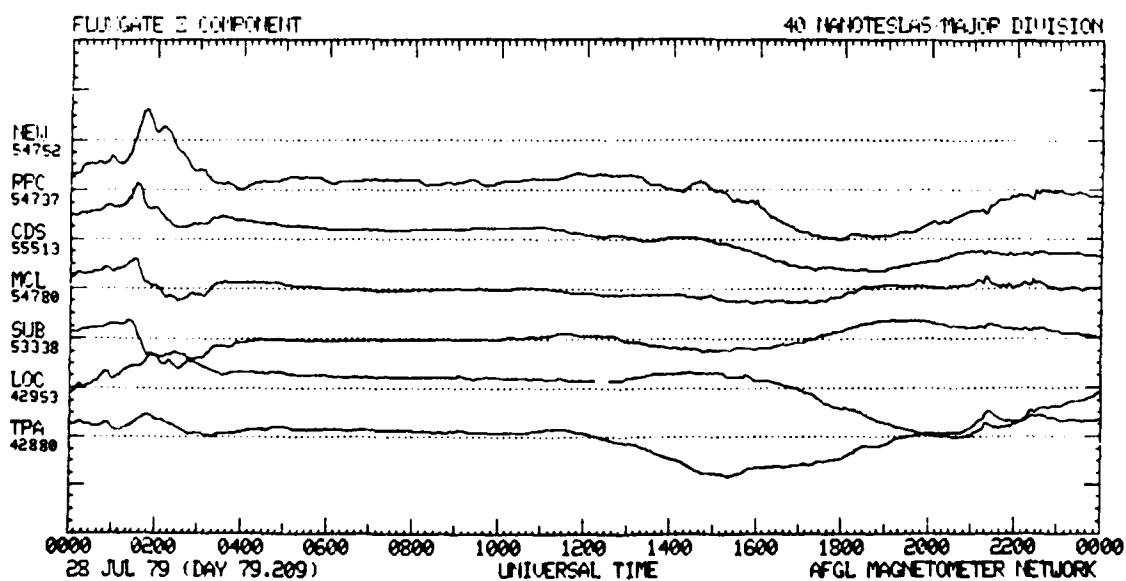
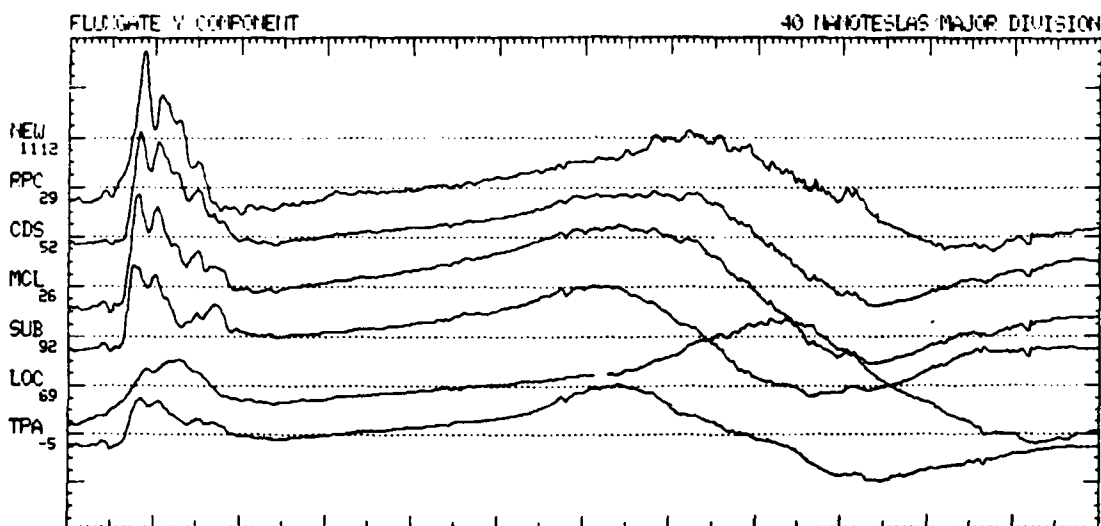
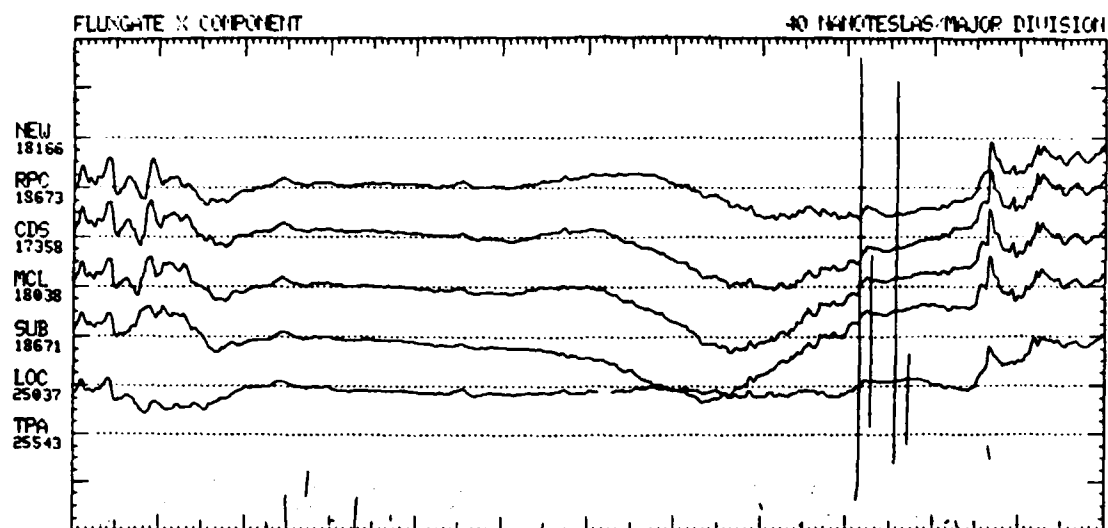


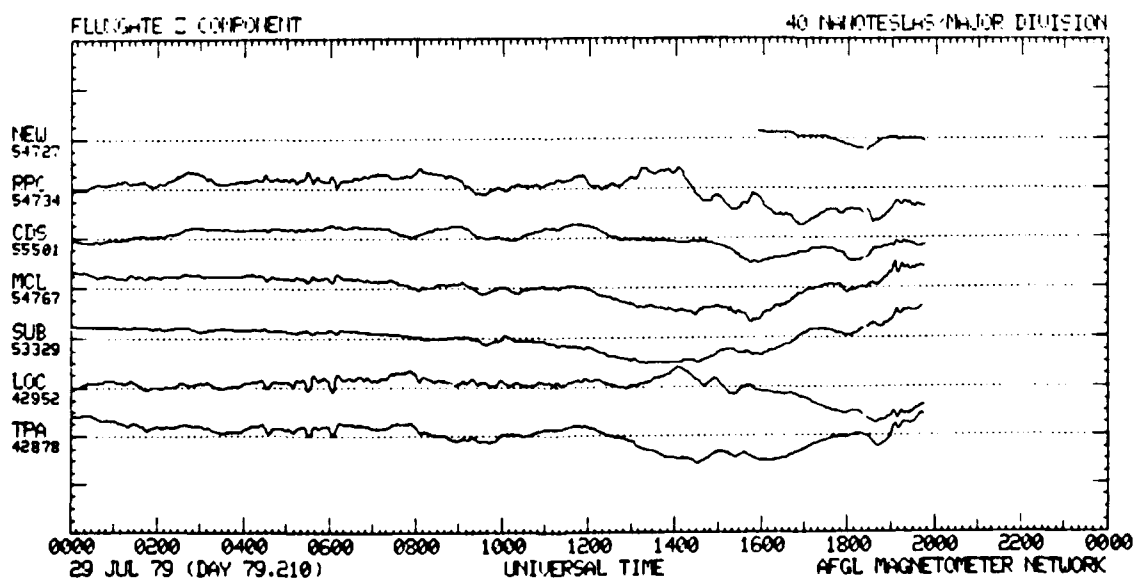
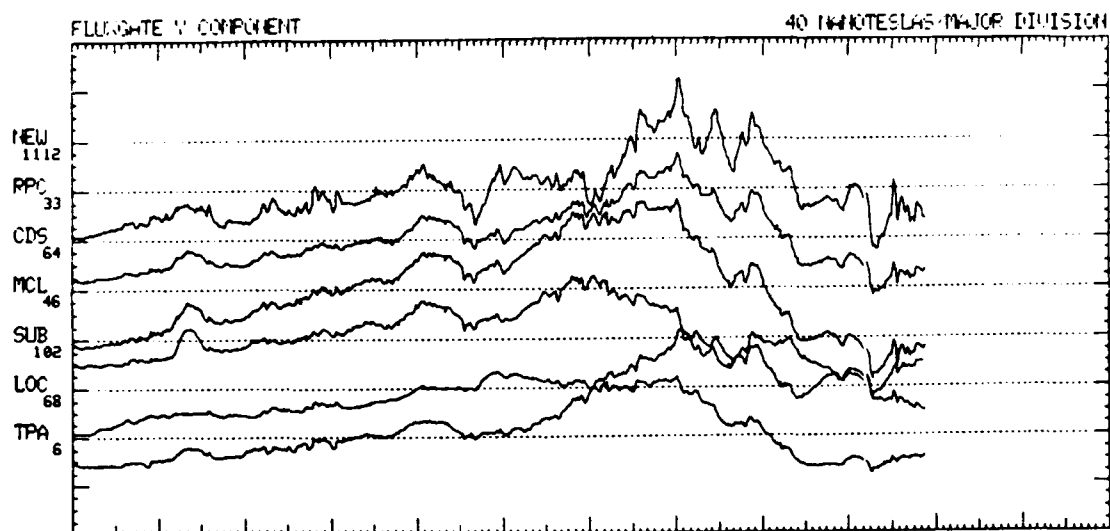
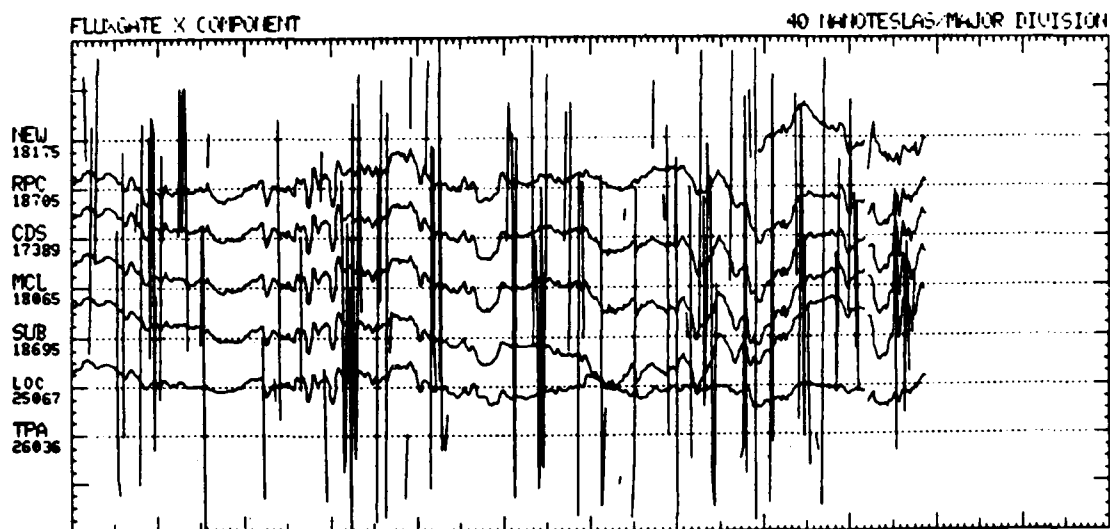


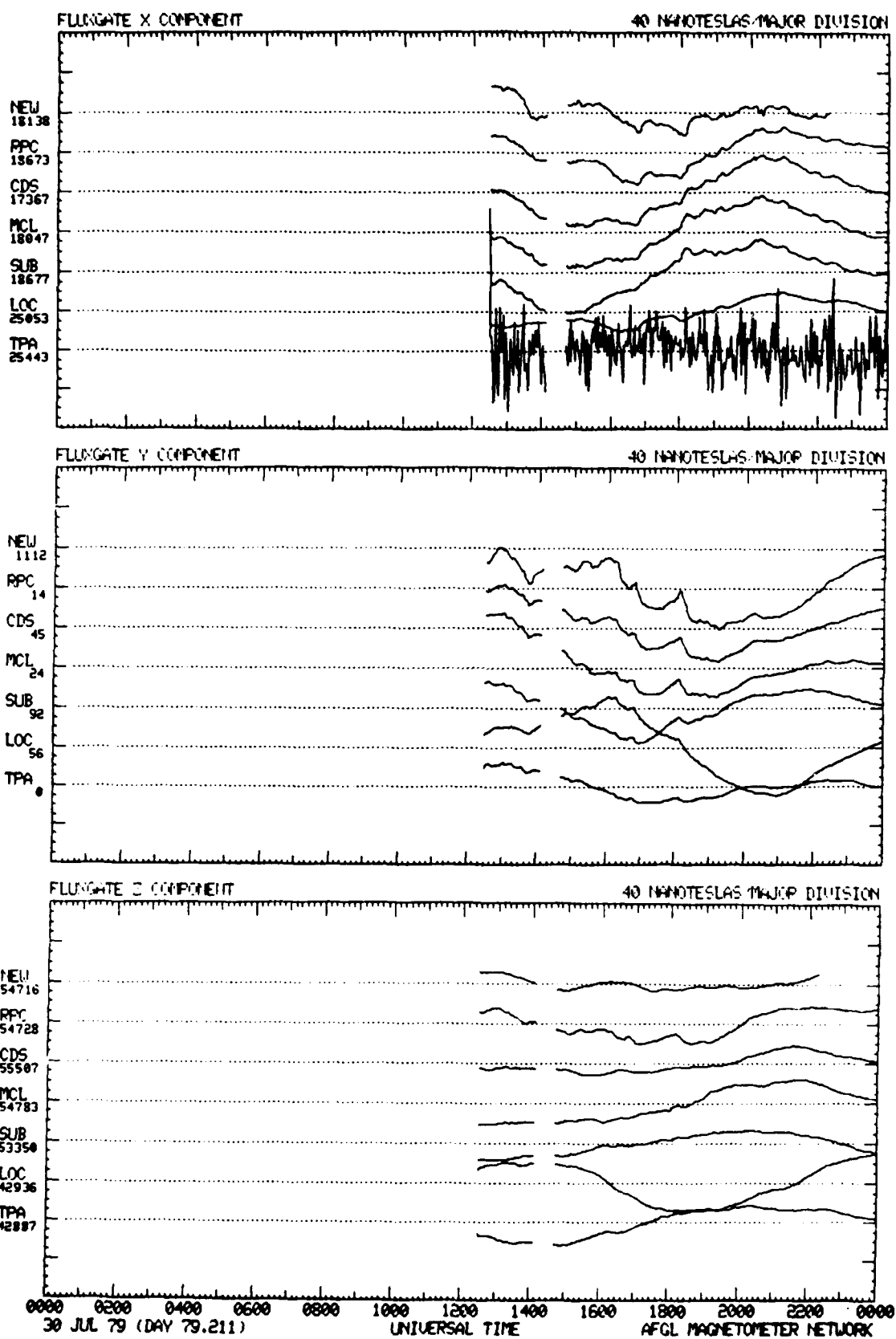


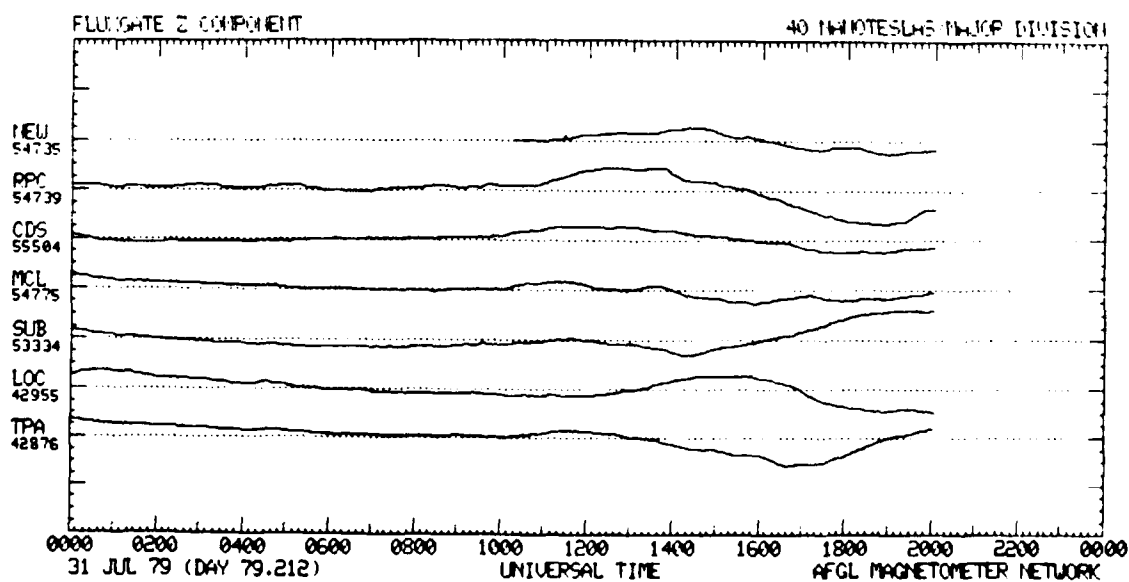
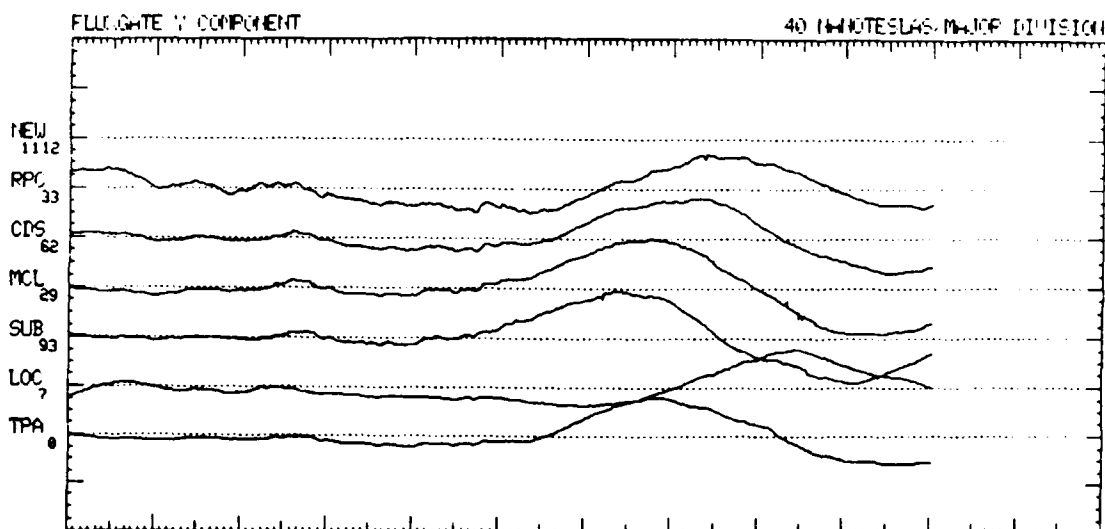
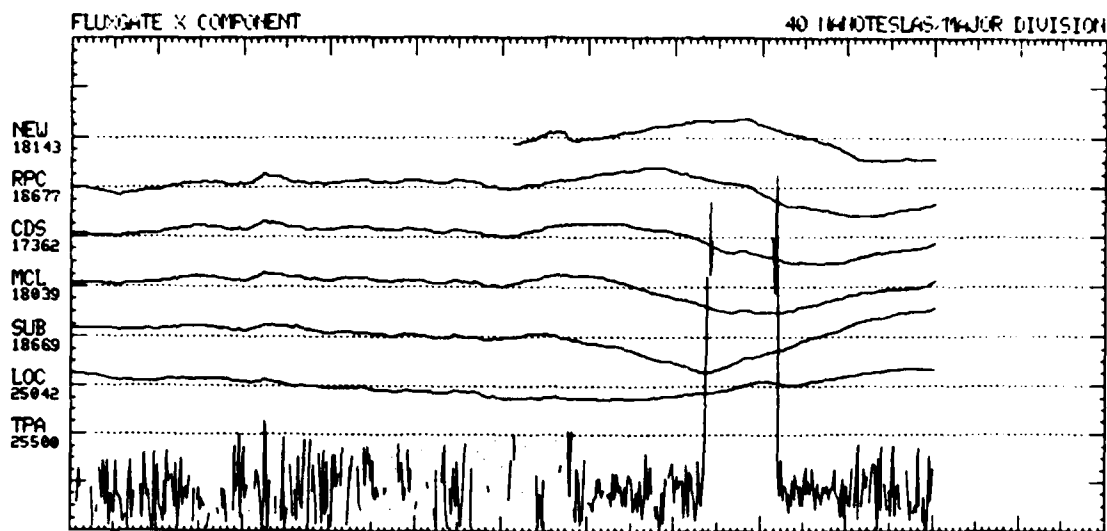








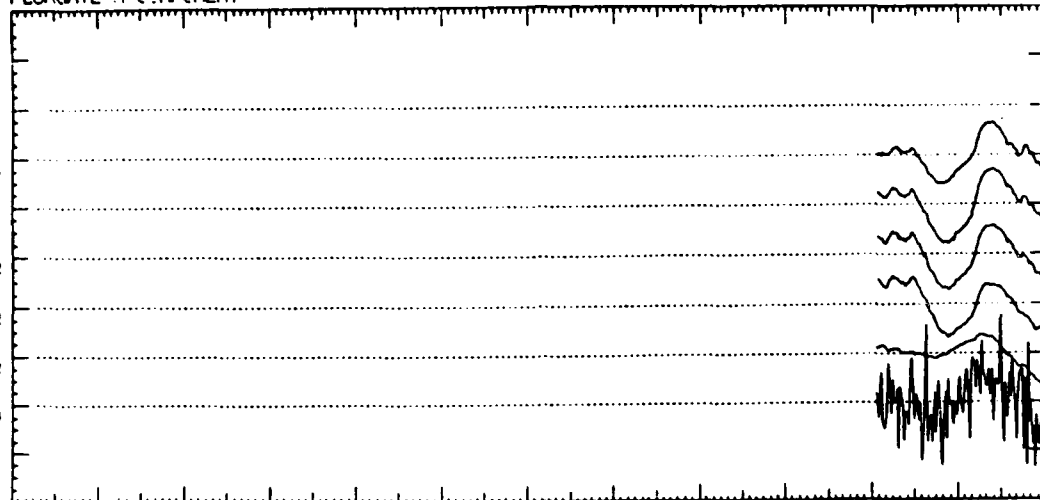




FLUXGATE X COMPONENT

40 NANOTESLAS MAJOR DIVISION

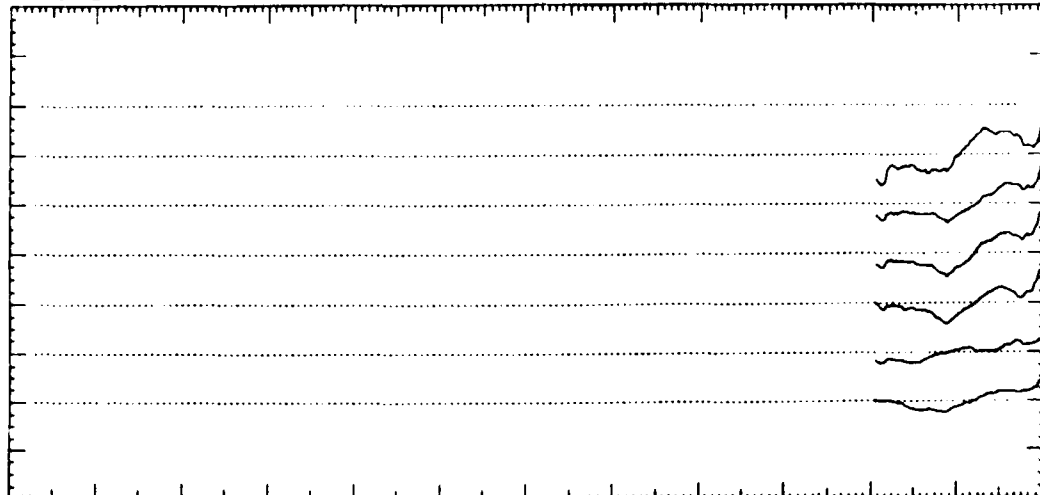
RPC
18696
CDS
17381
MCL
18062
SUB
18702
LOC
25062
TPA
25434



FLUXGATE Y COMPONENT

40 NANOTESLAS MAJOR DIVISION

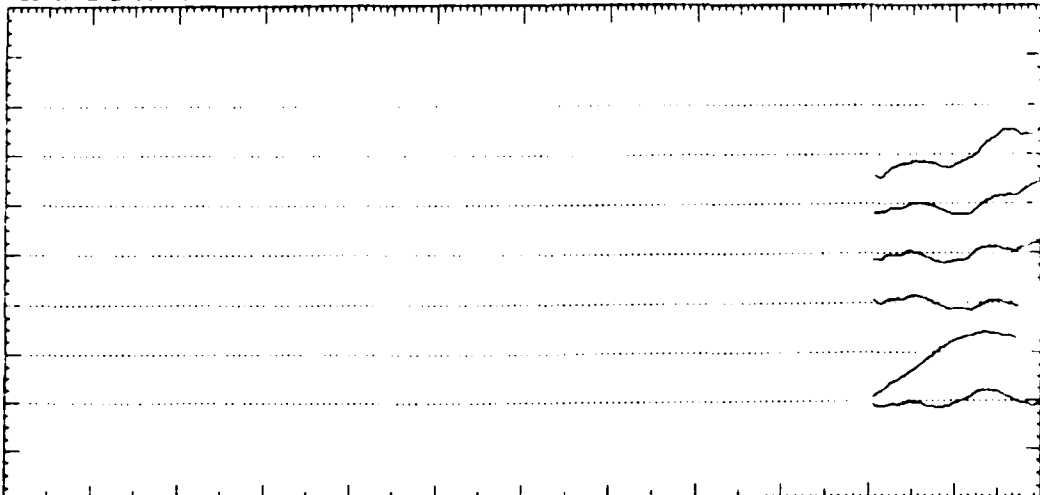
RPC
3
CDS
3
MCL
8
SUB
89
LOC
42
TPA
-19



FLUXGATE Z COMPONENT

40 NANOTESLAS MAJOR DIVISION

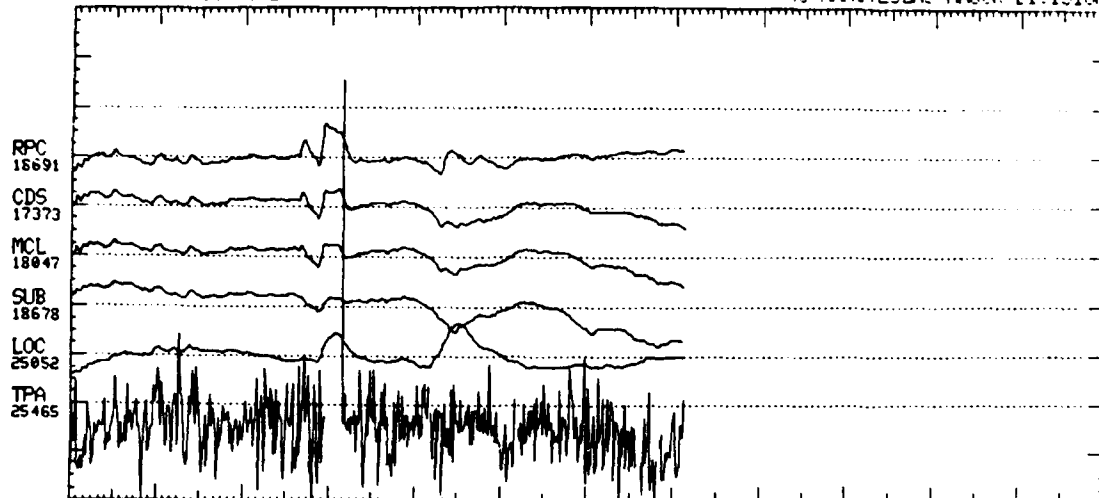
RPC
54732
CDS
55508
MCL
5478
SUB
53358
LOC
42946
TPA
42891



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
01 AUG 79 (DAY 79.213) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

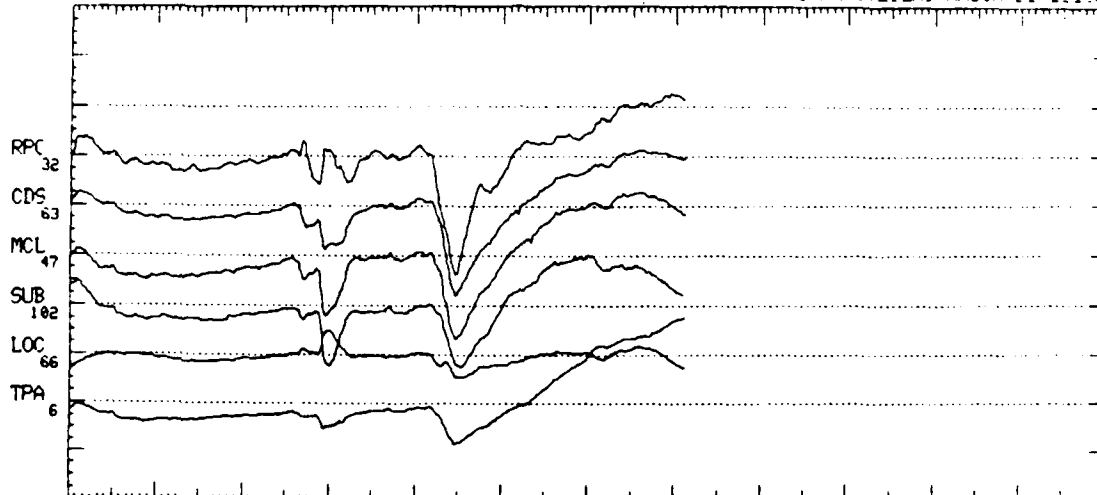
FLIGHT X COMPONENT

40 NANOTESLA MAJOR DIVISION



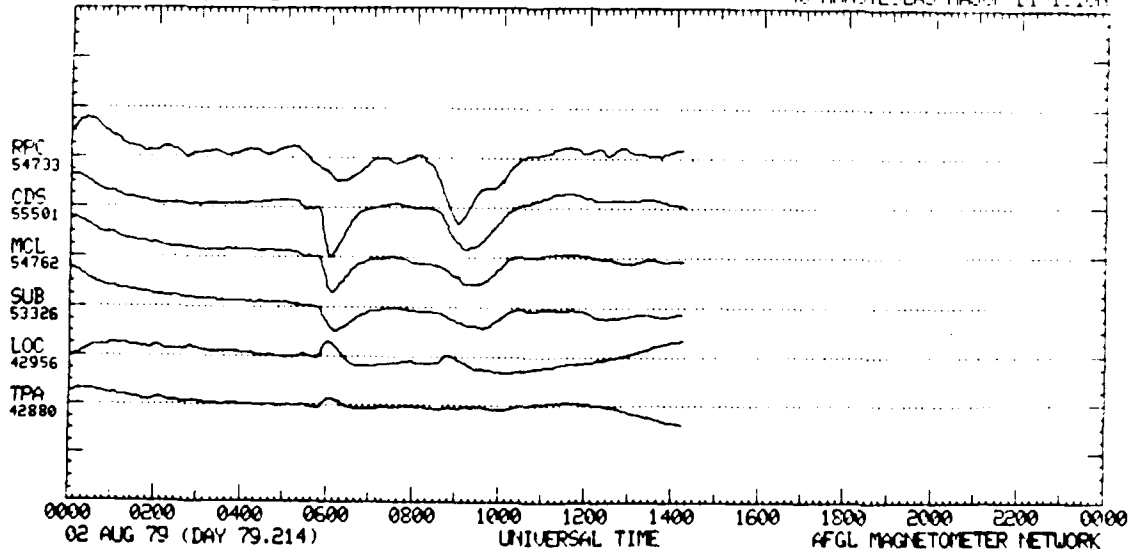
FLIGHT Y COMPONENT

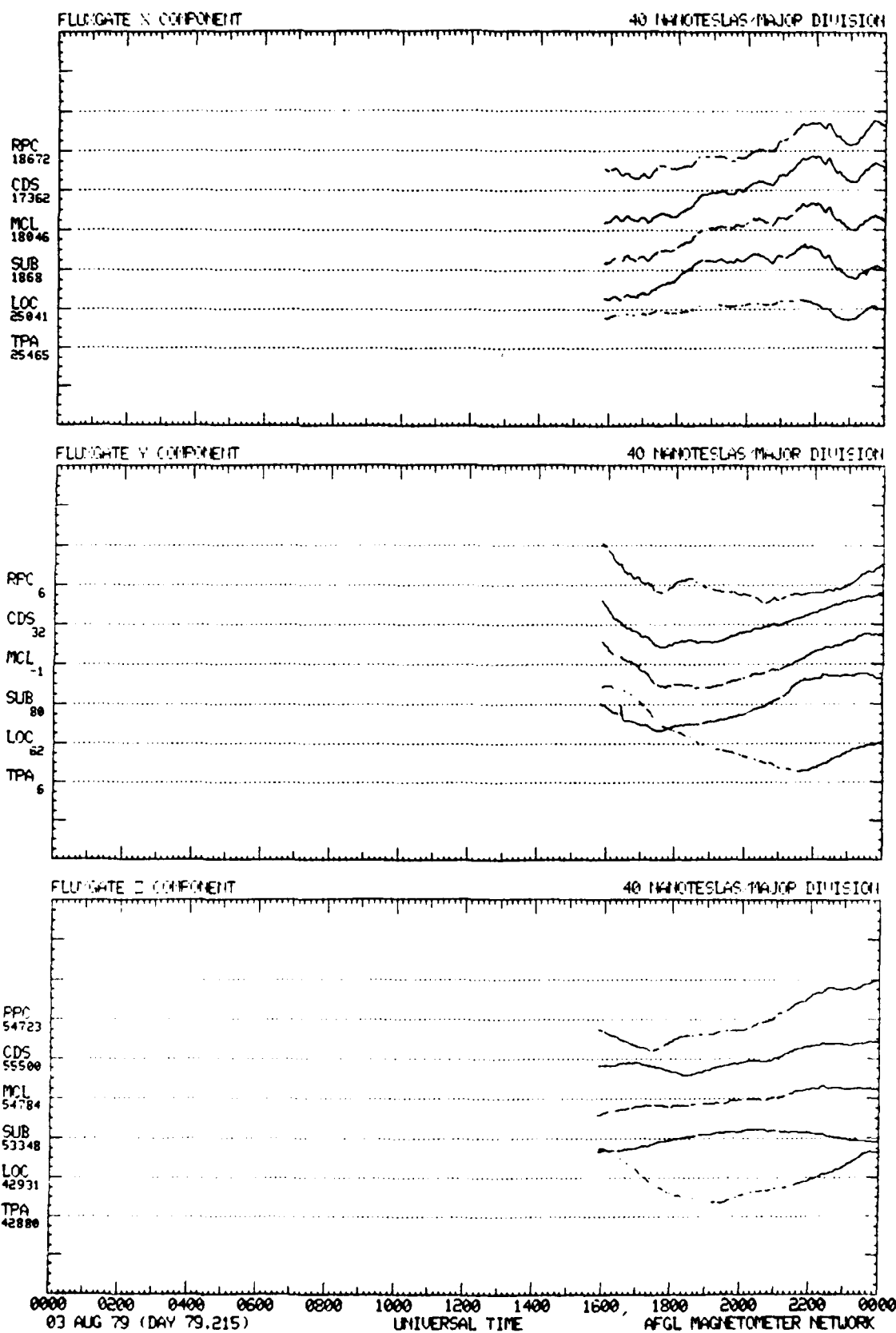
40 NANOTESLA MAJOR DIVISION

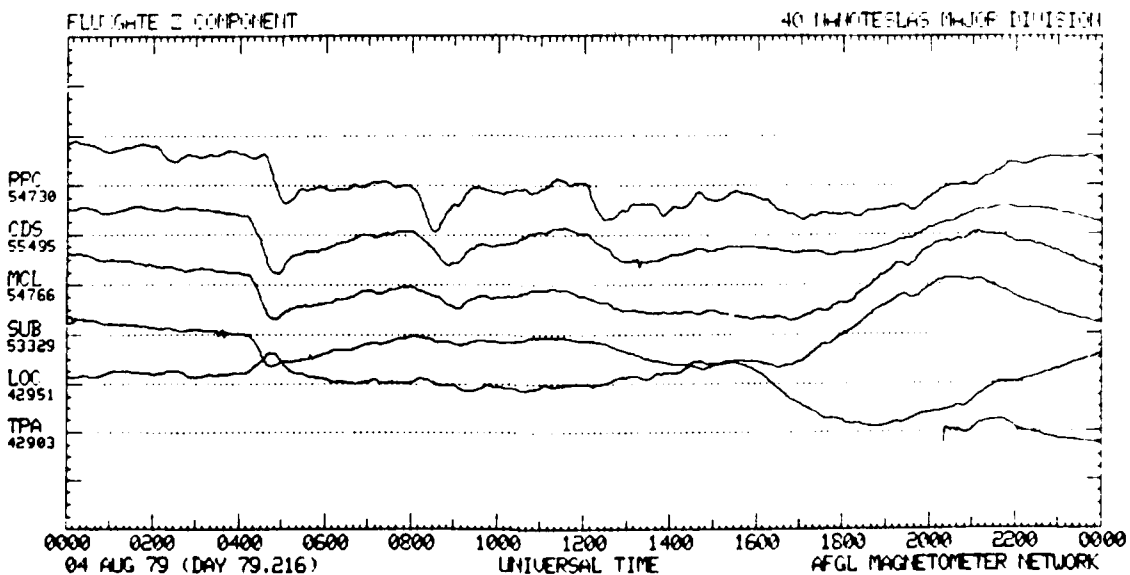
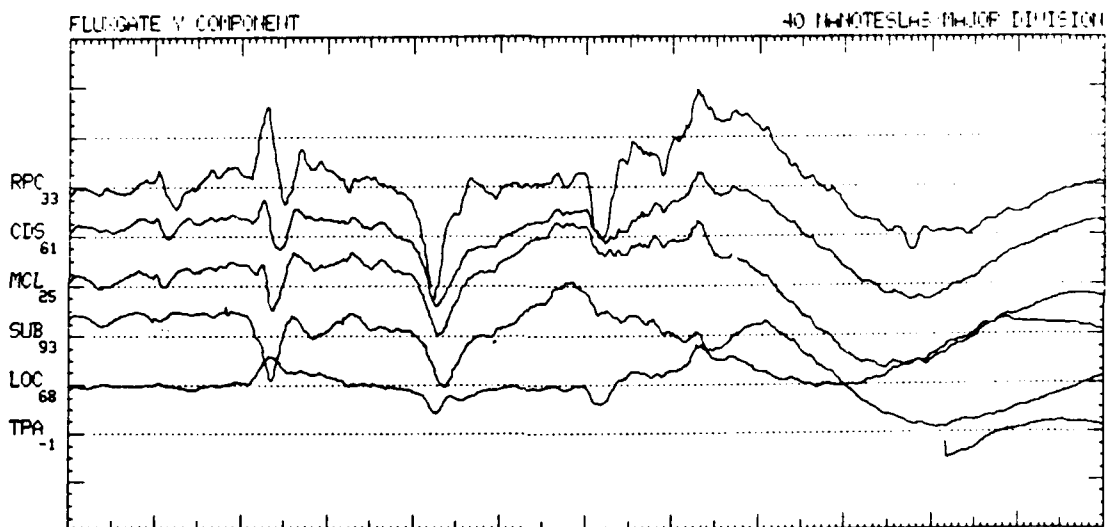
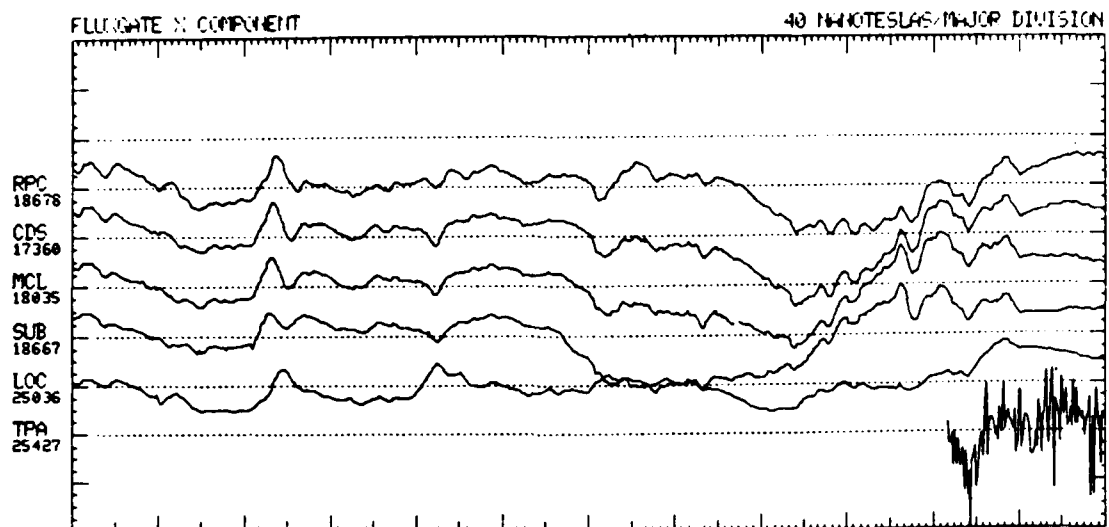


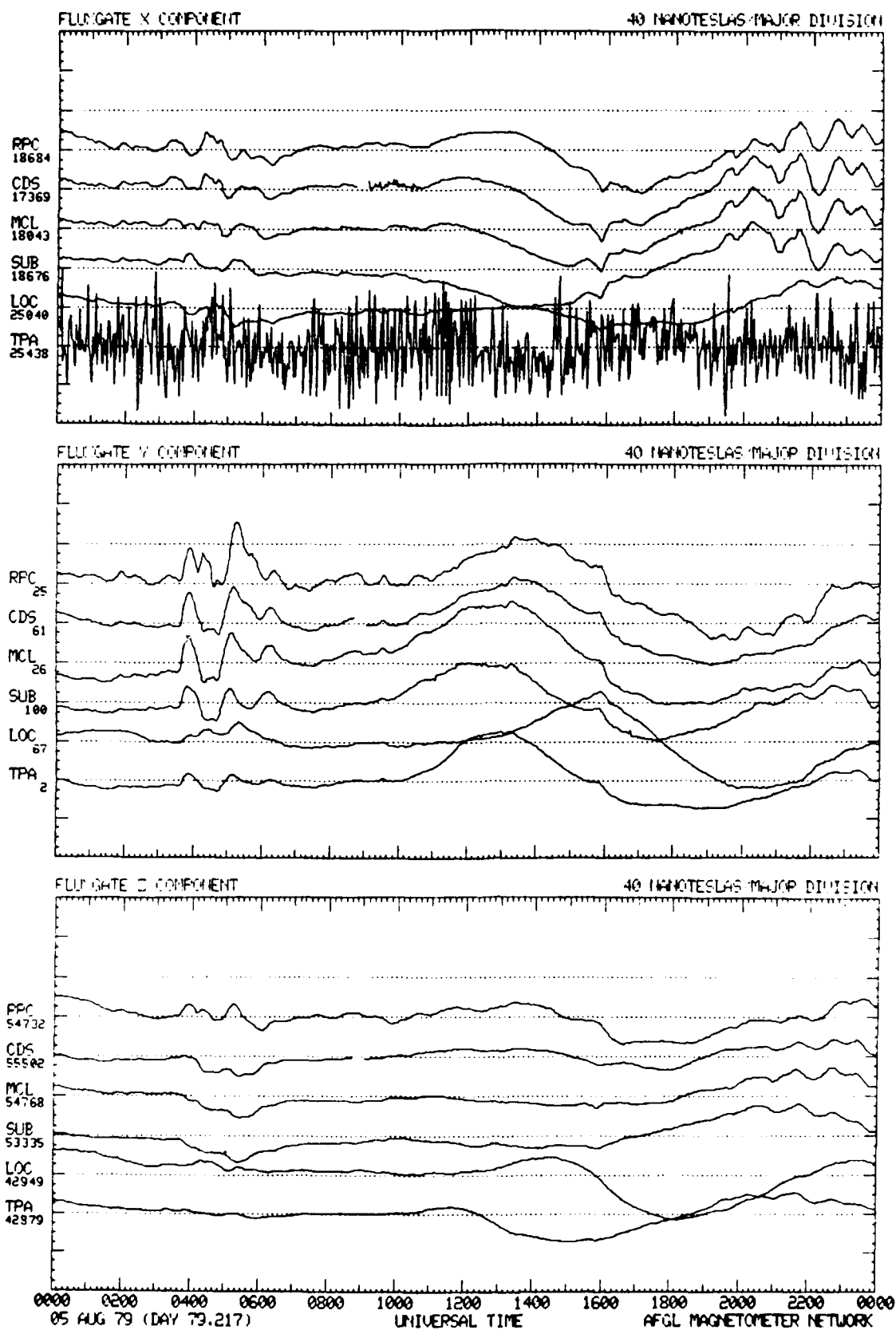
FLIGHT Z COMPONENT

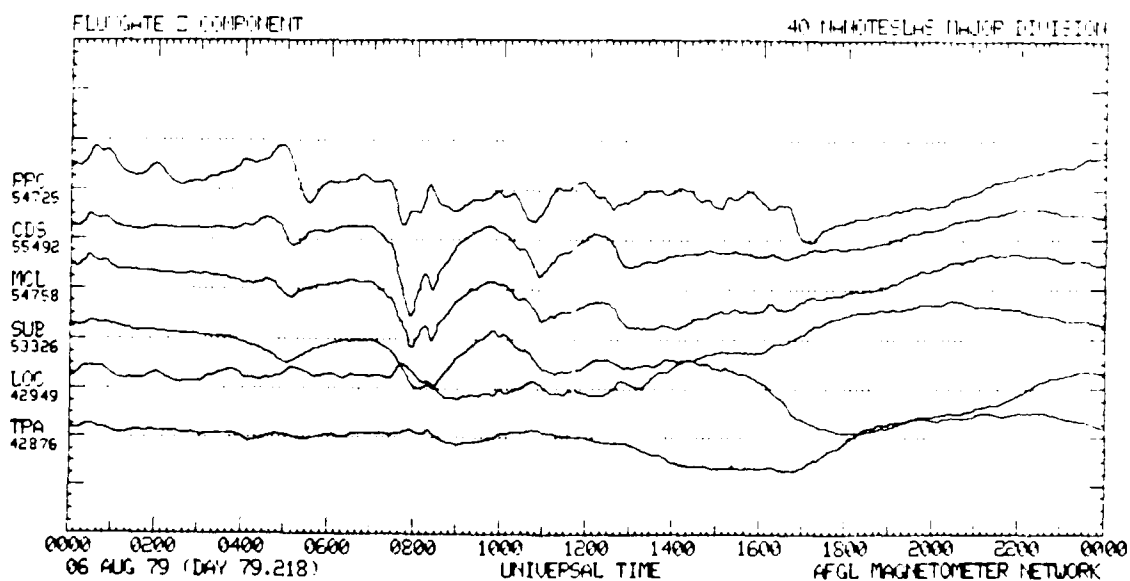
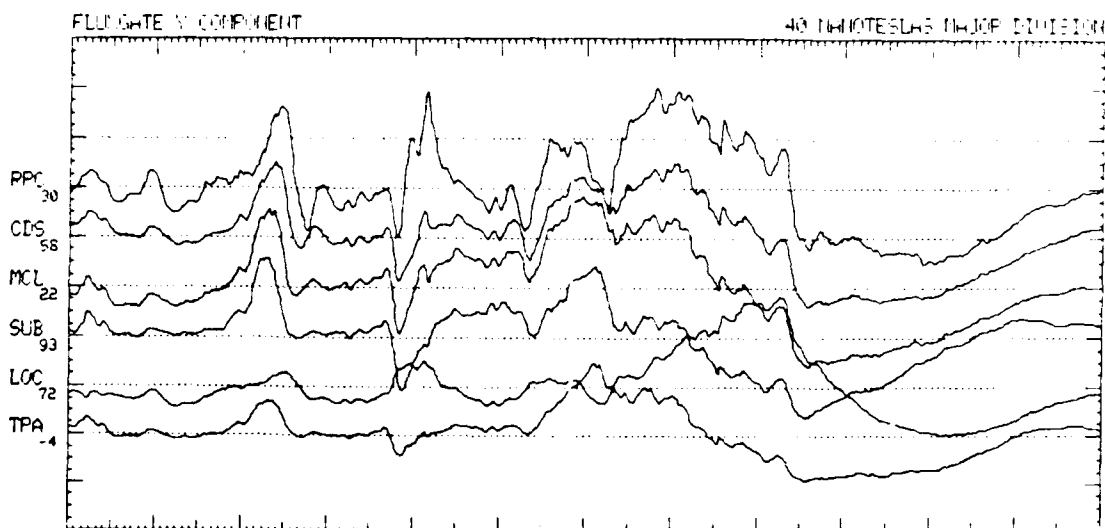
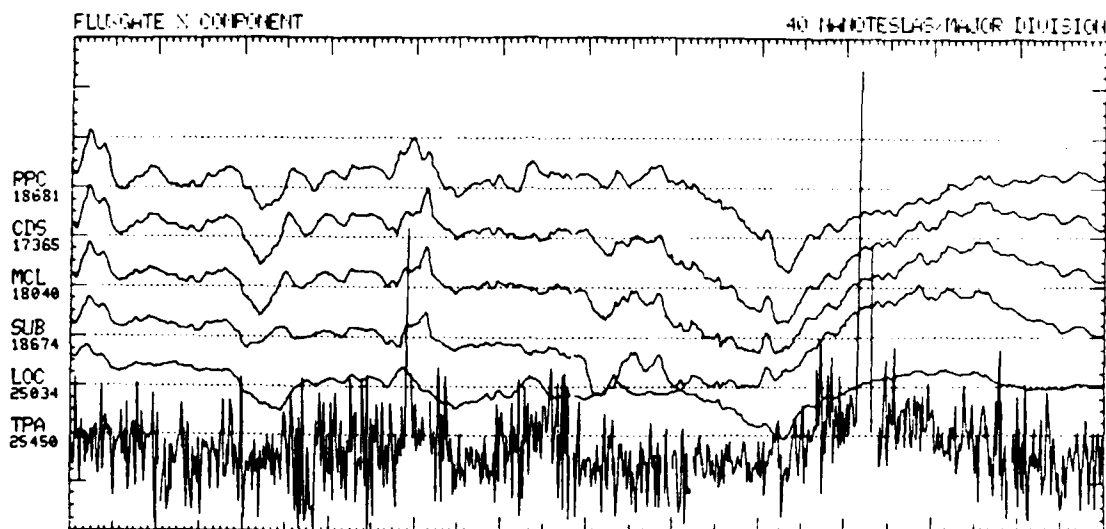
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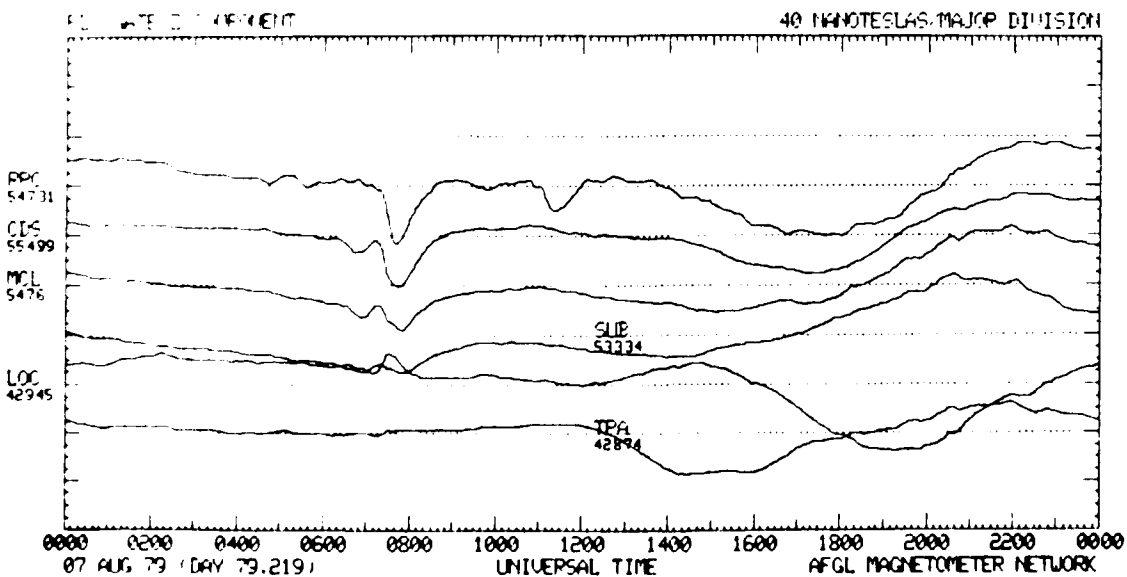
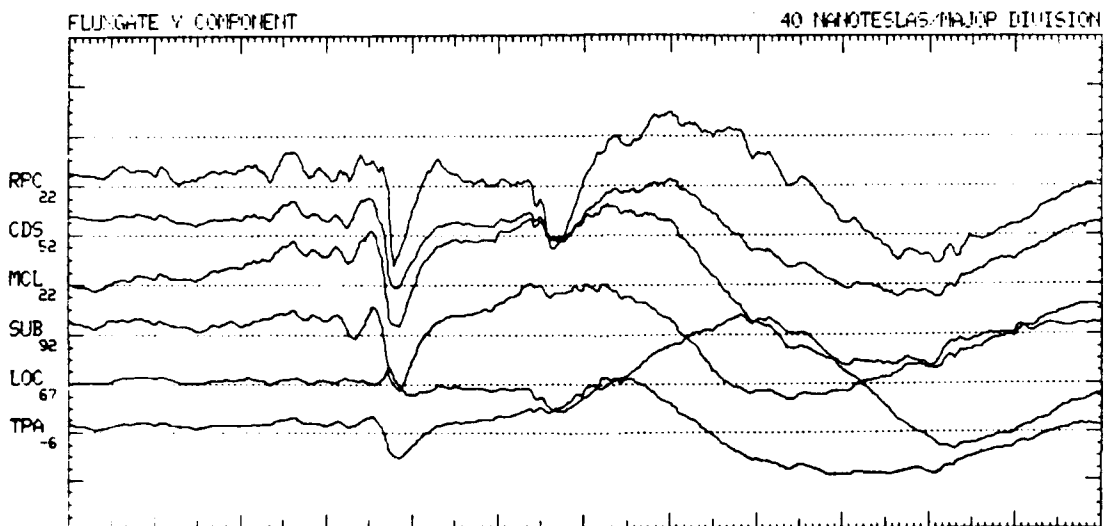
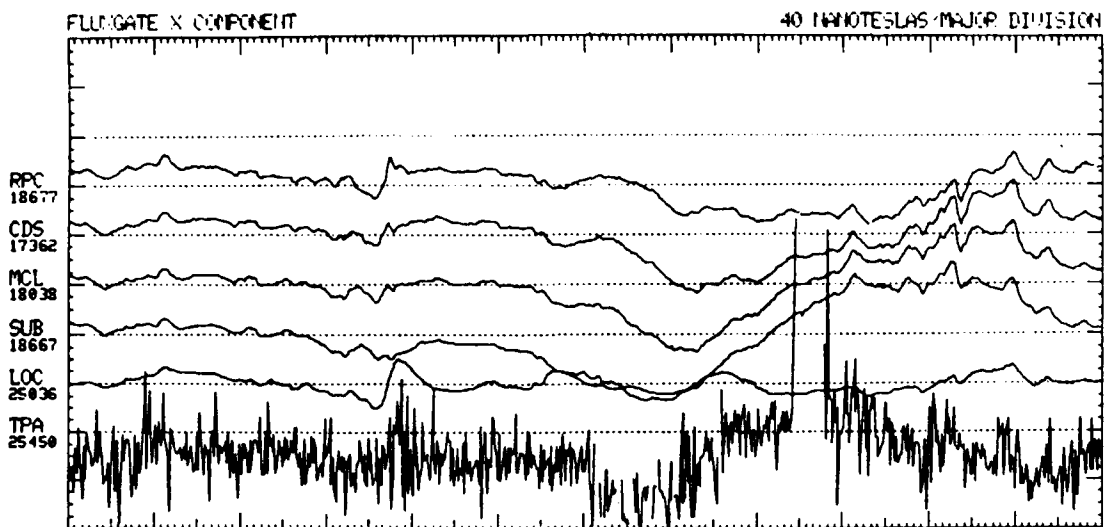


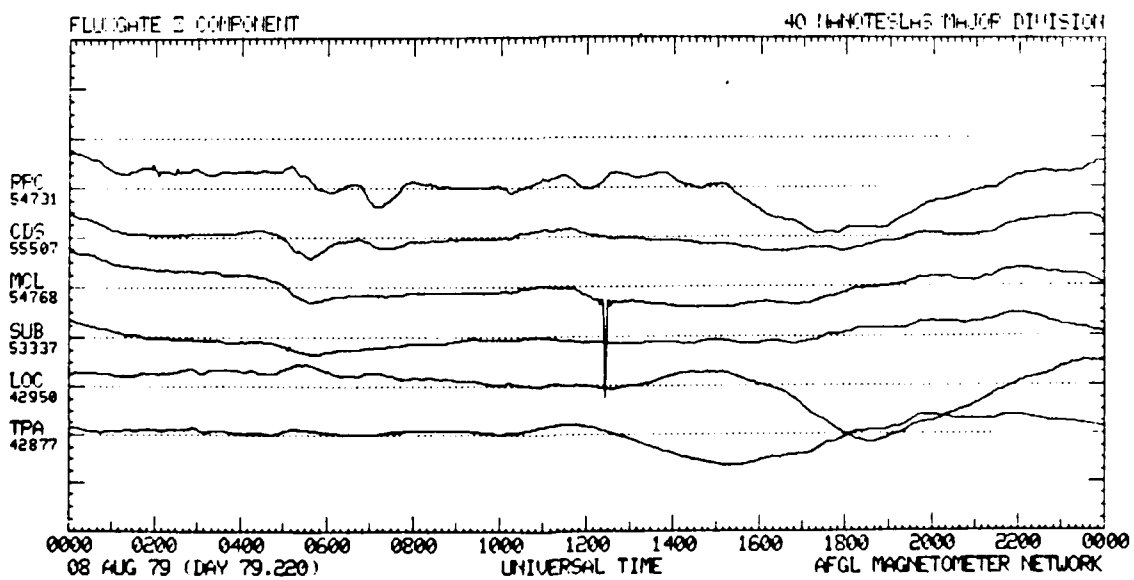
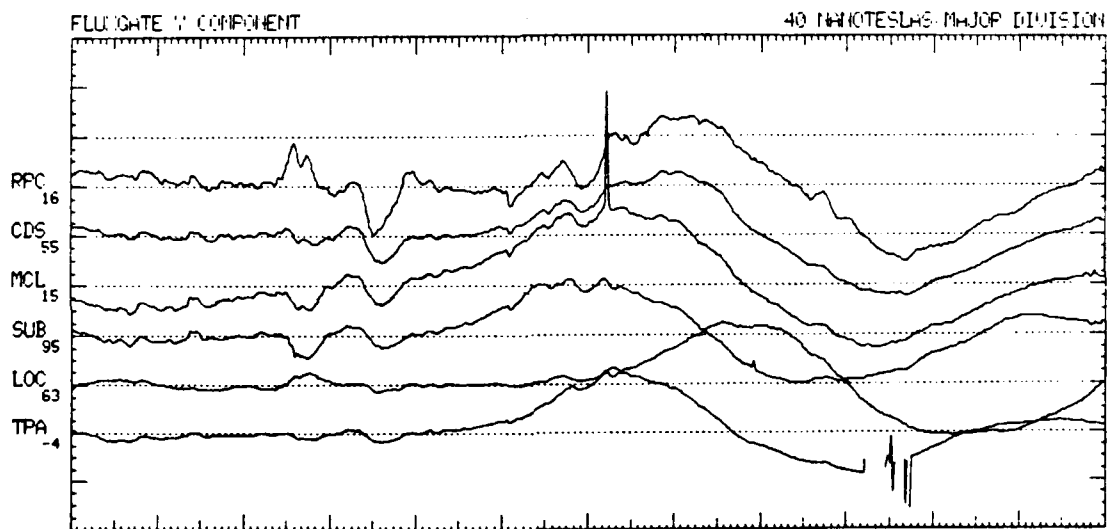
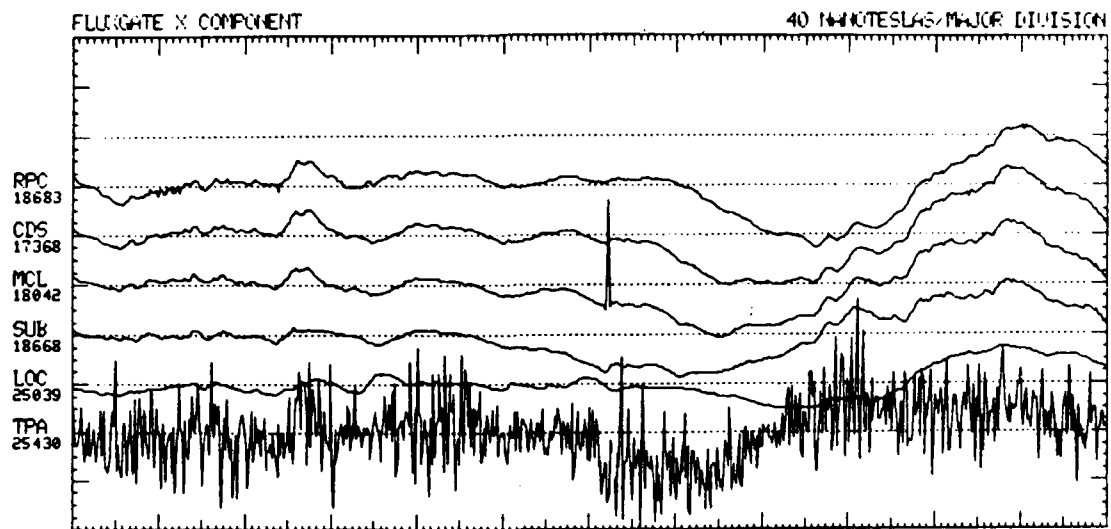


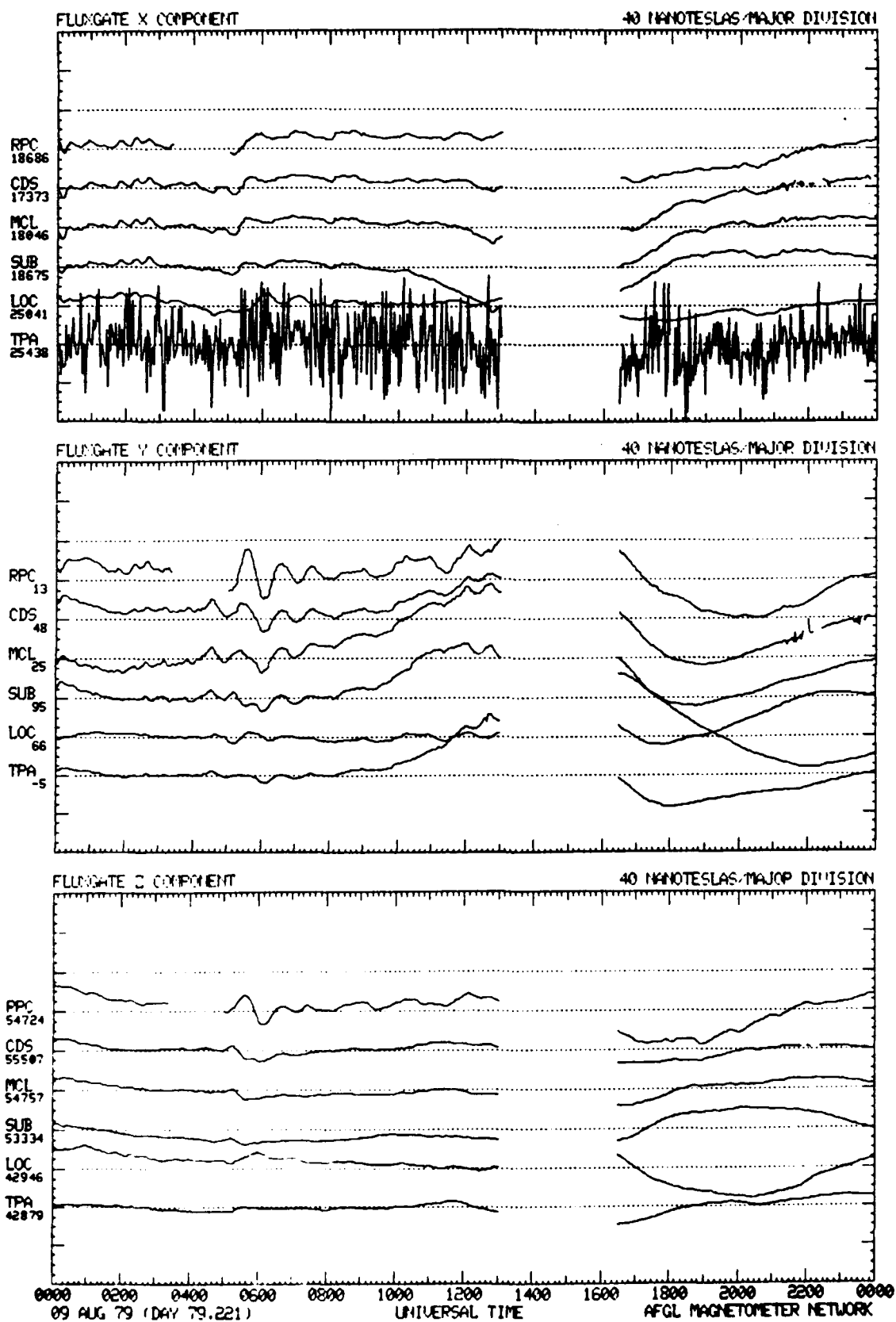


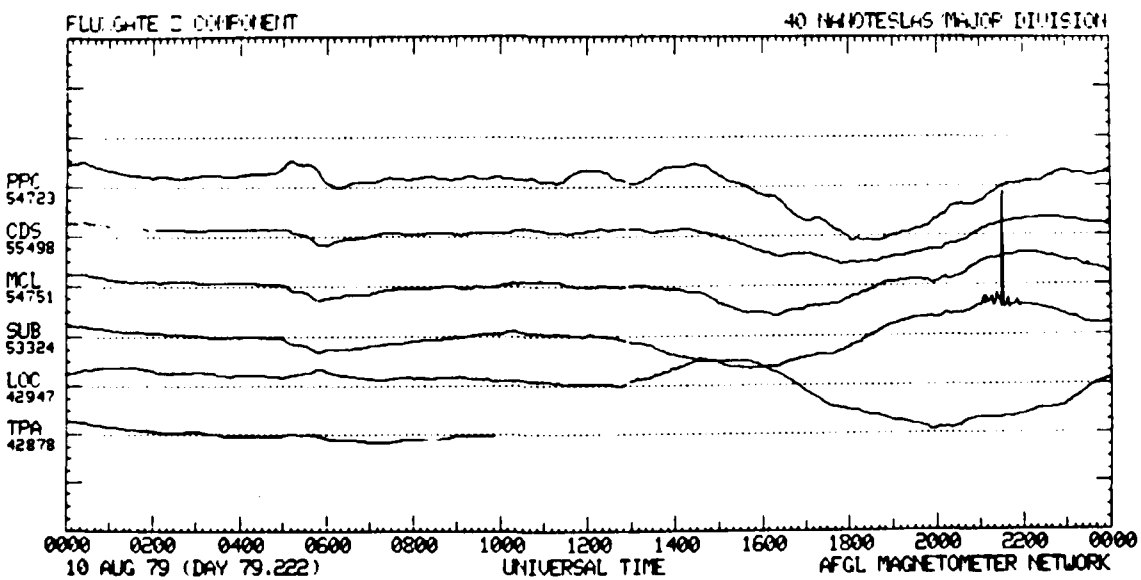
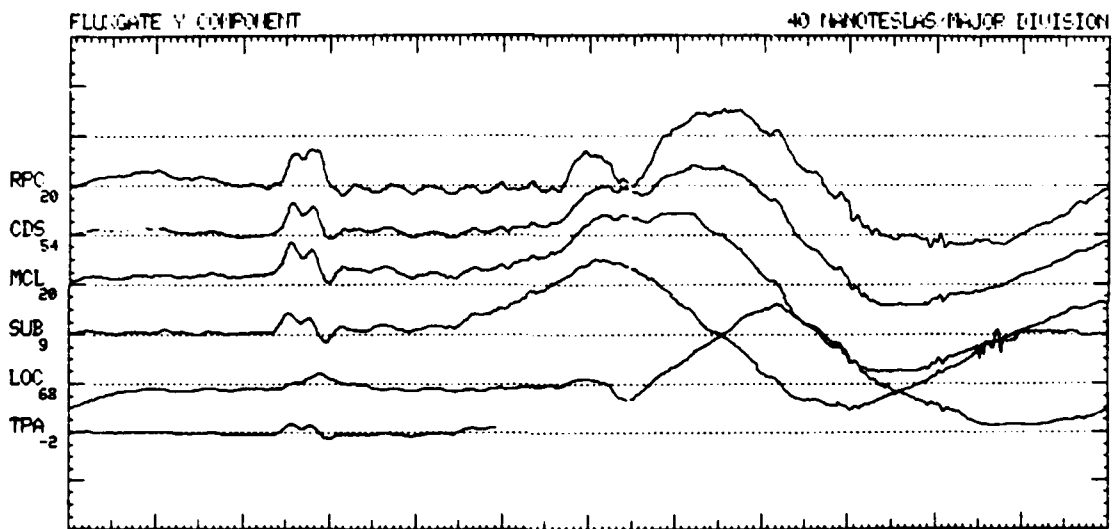
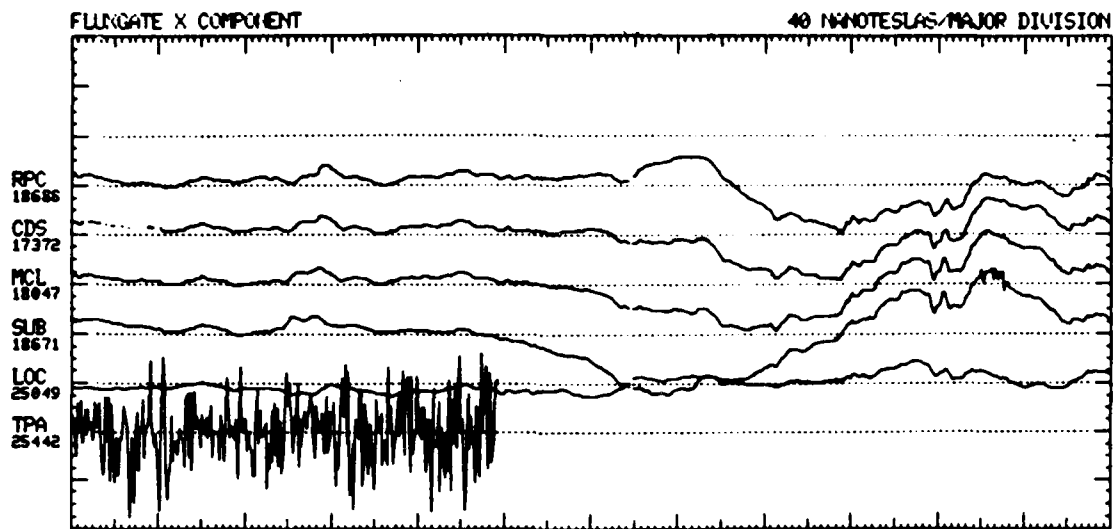


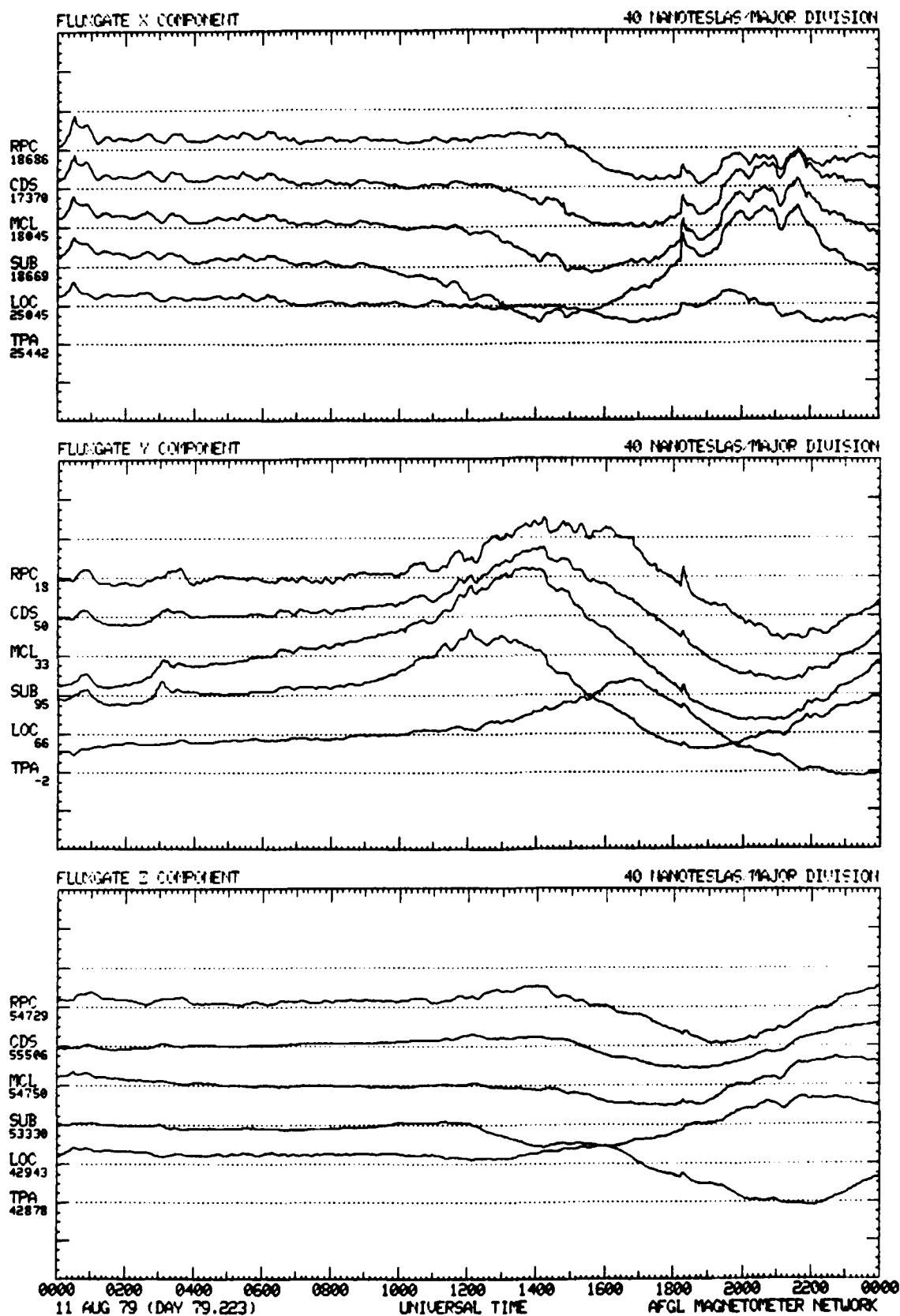


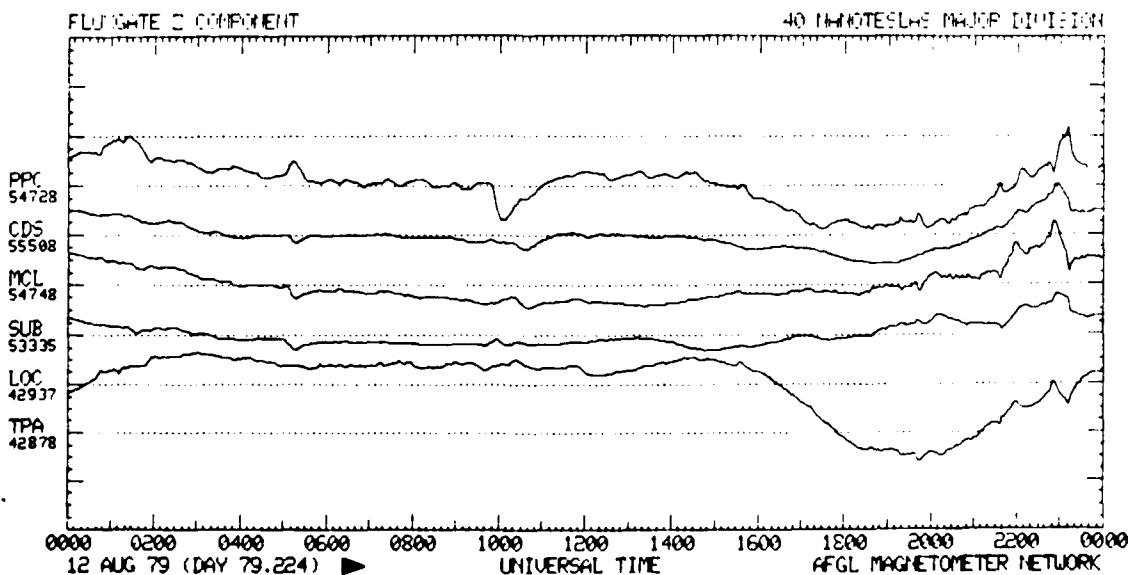
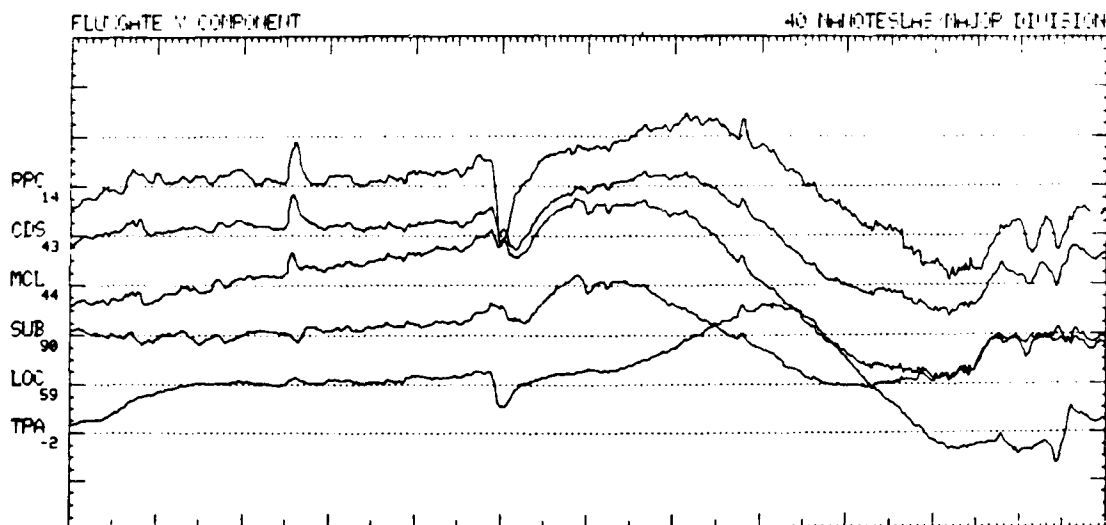
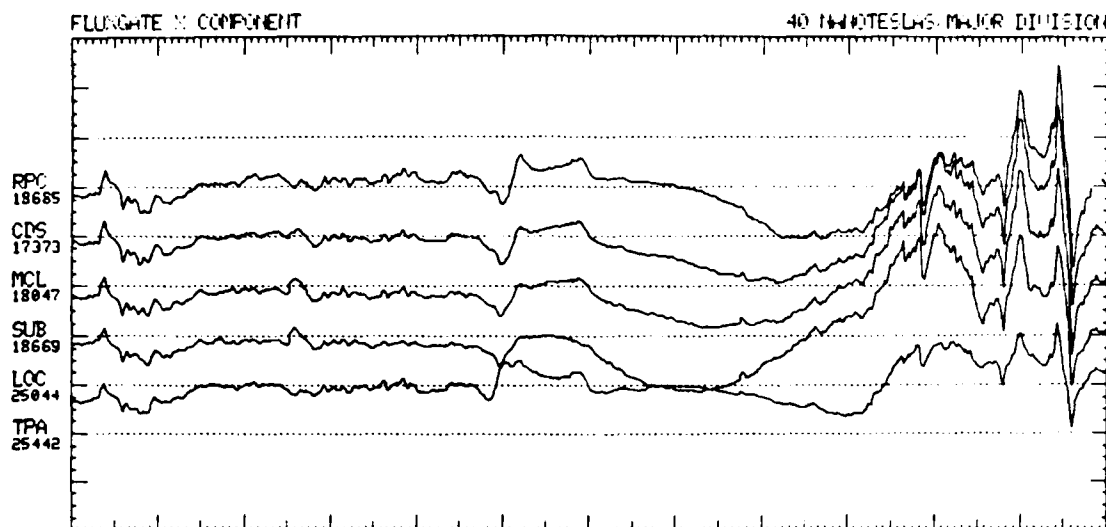


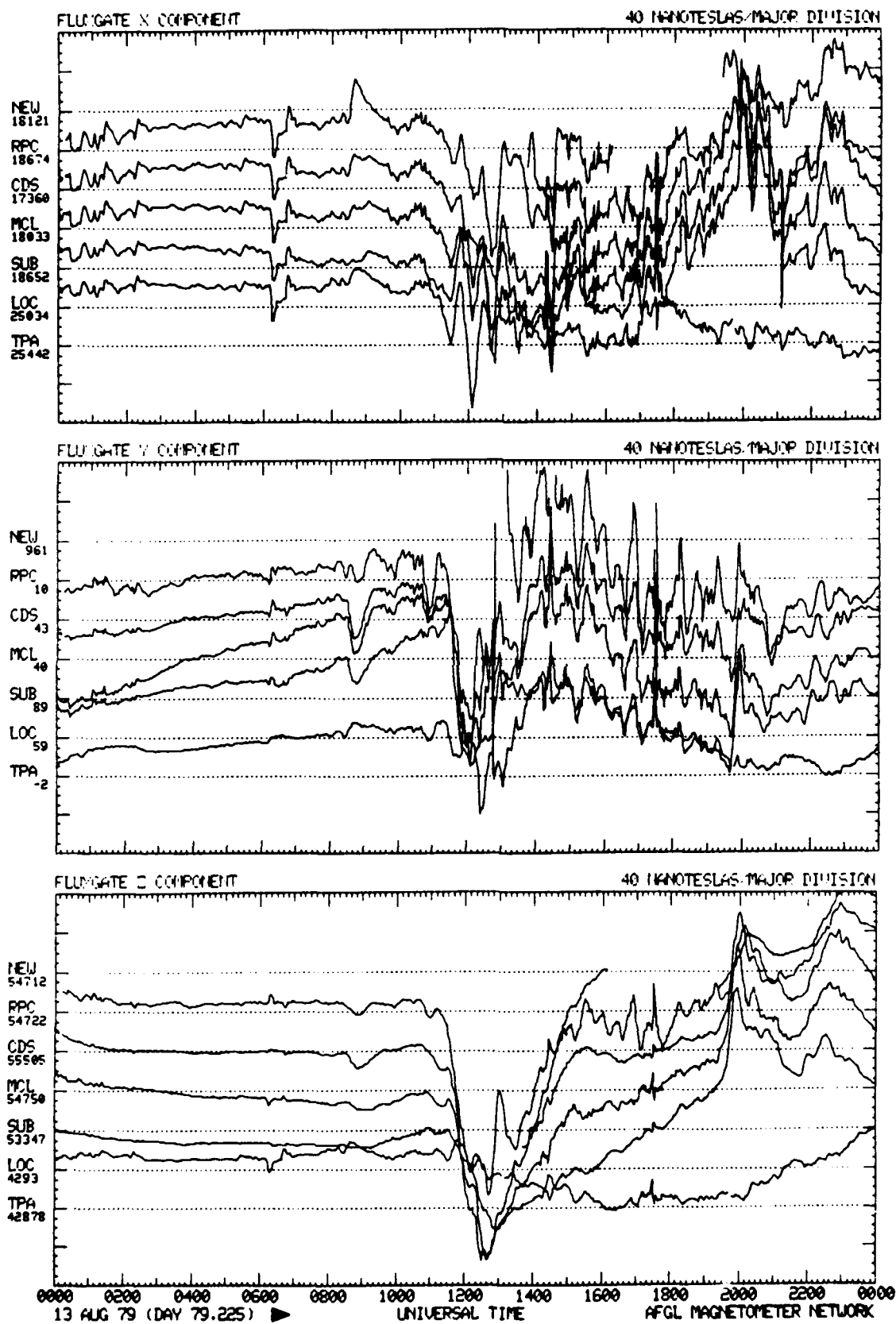


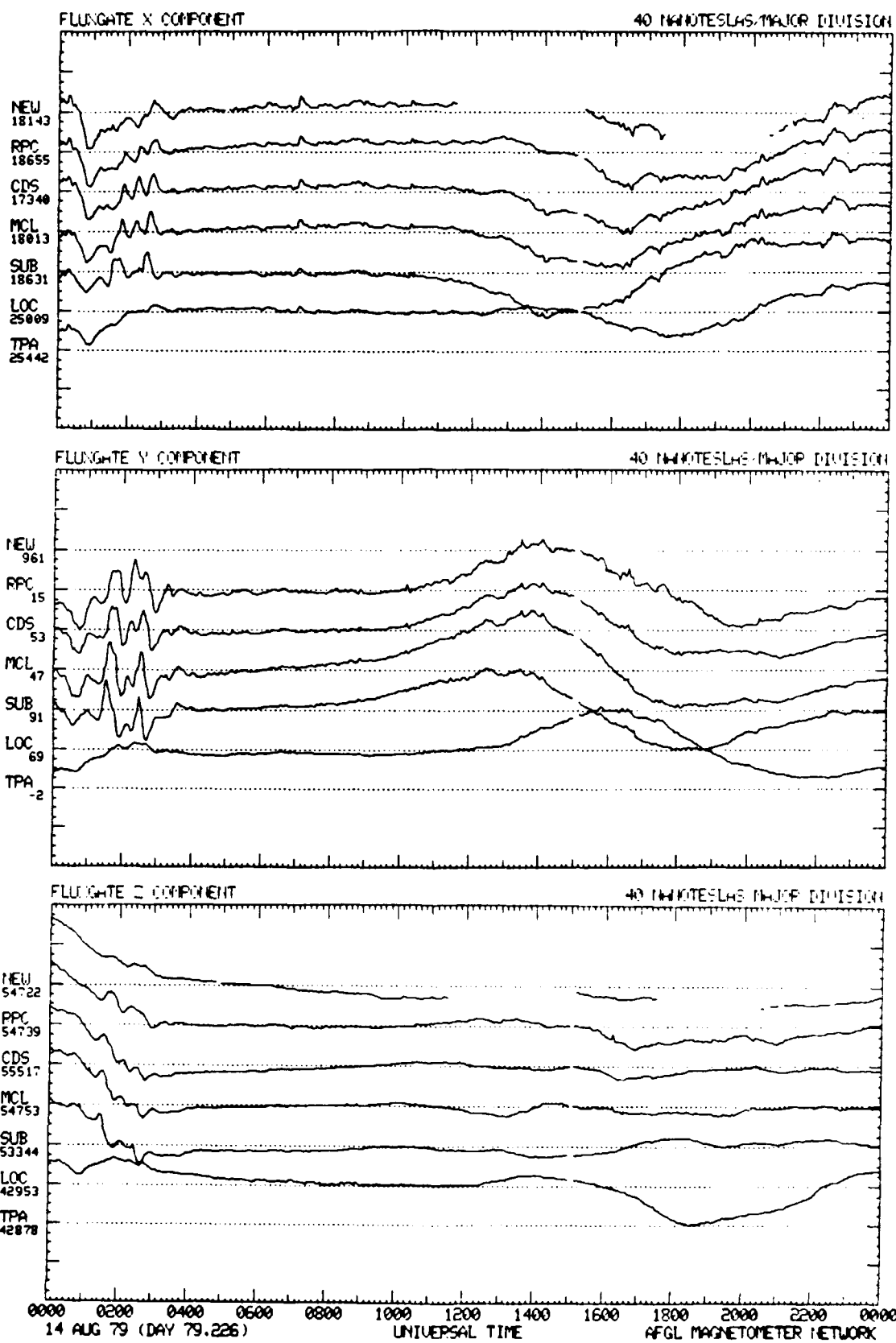


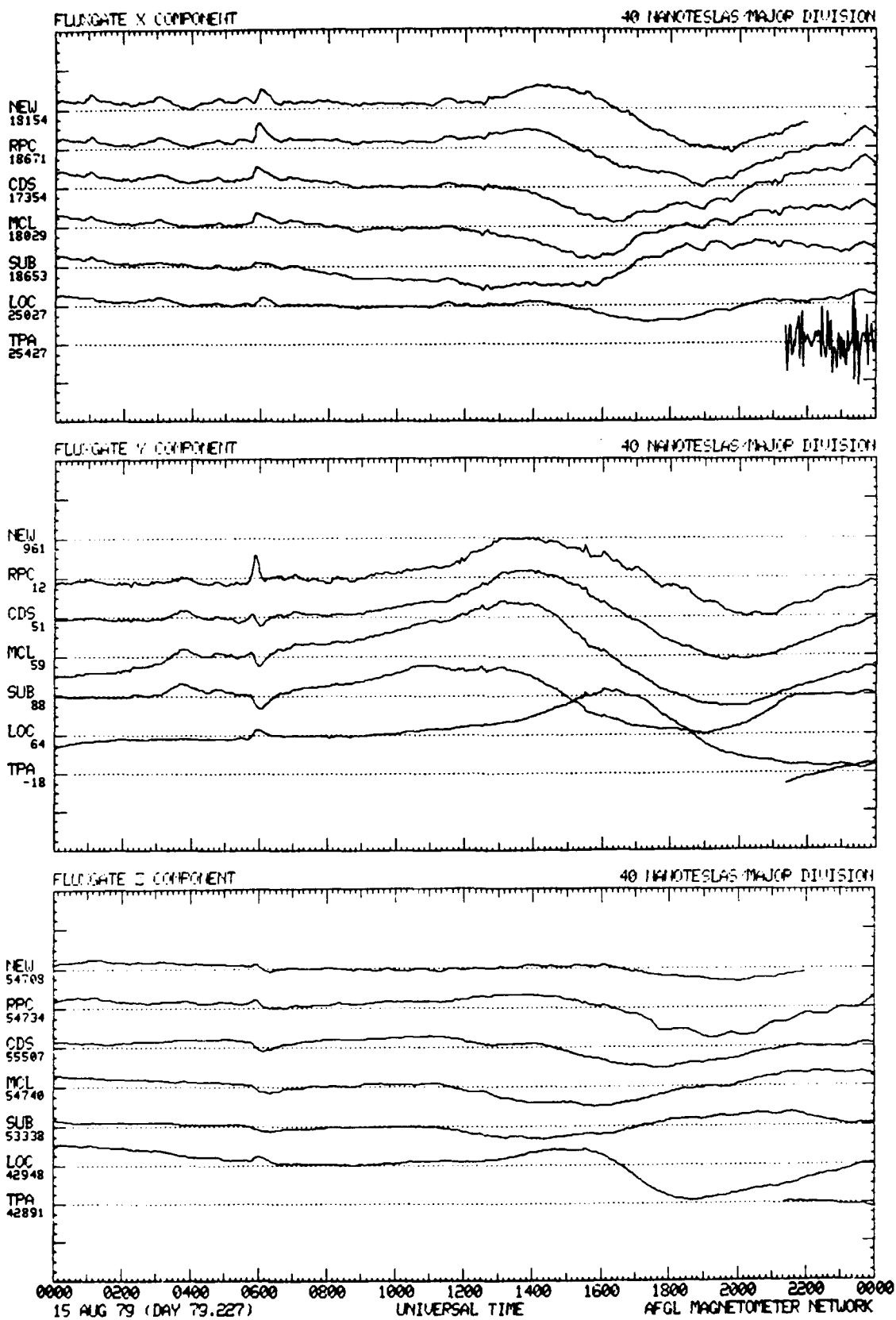


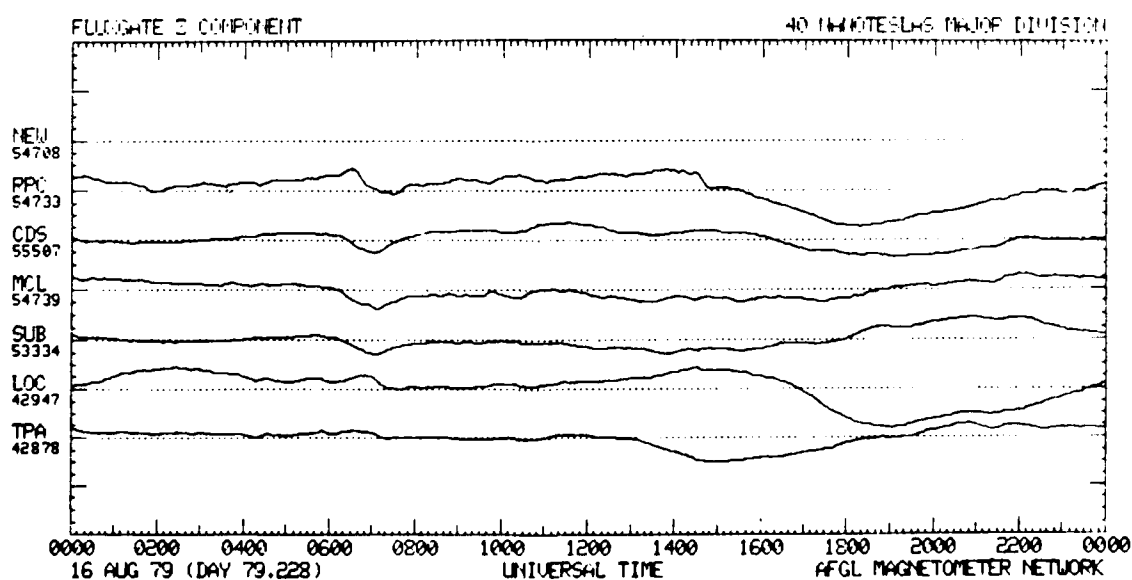
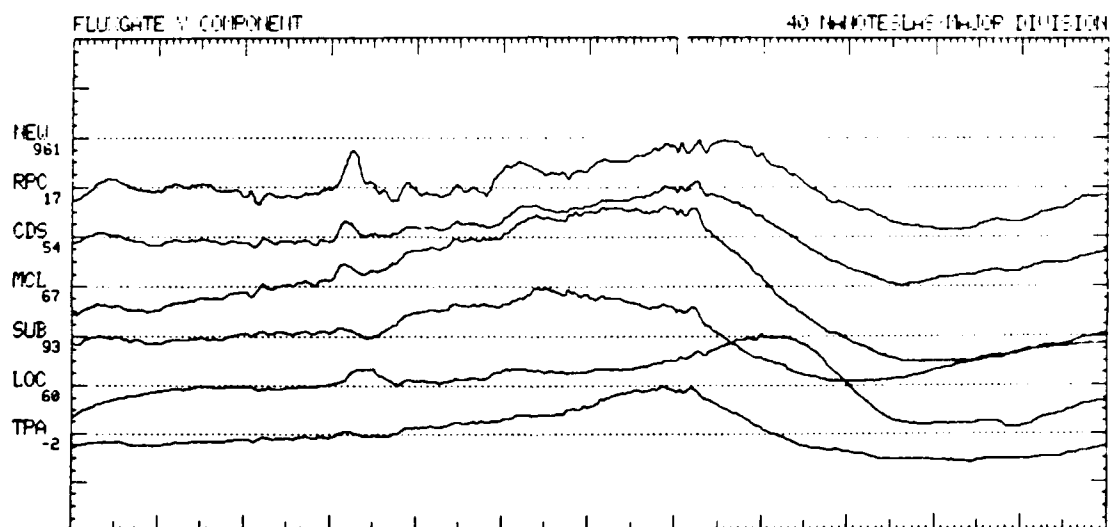
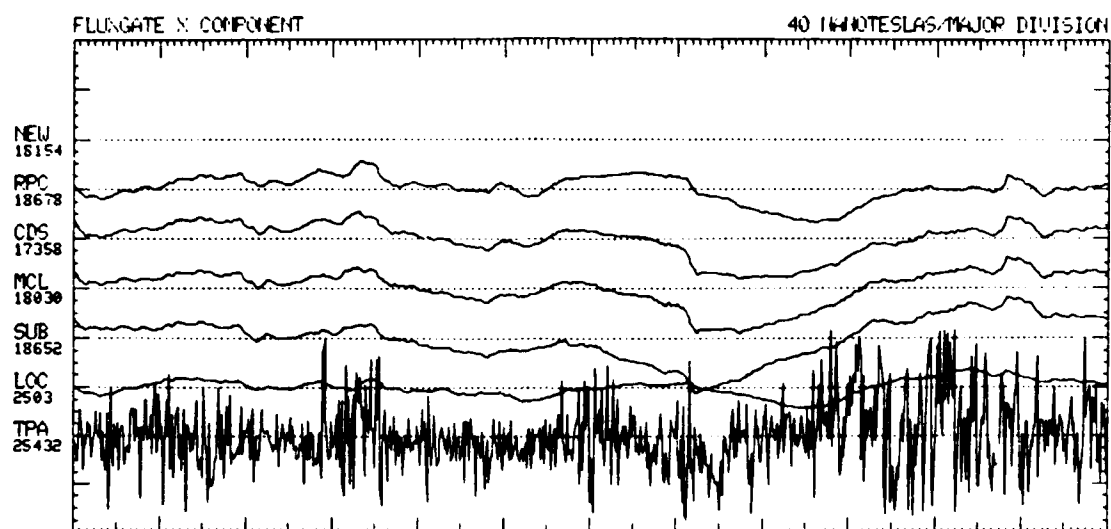


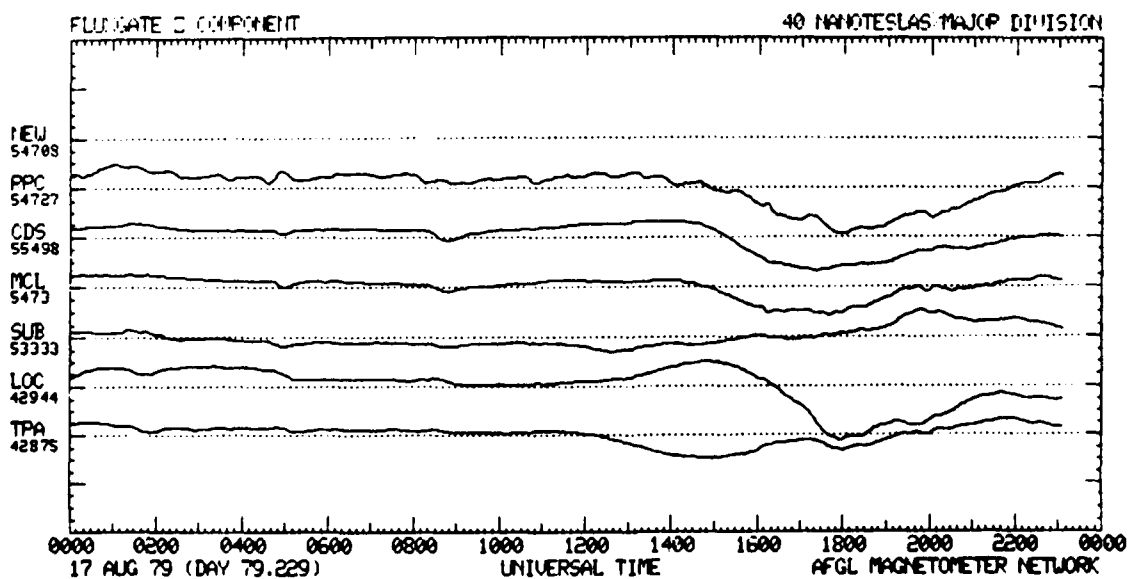
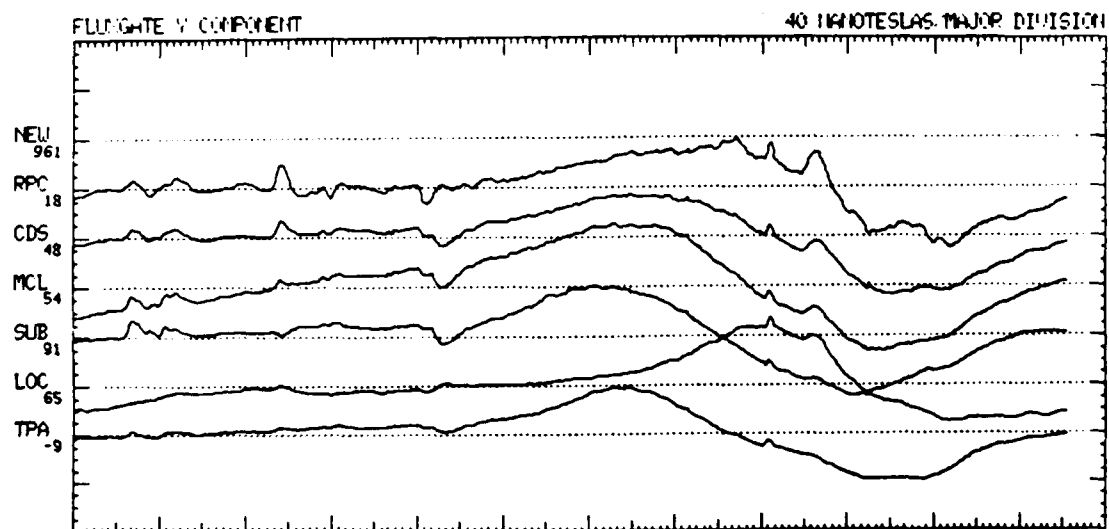
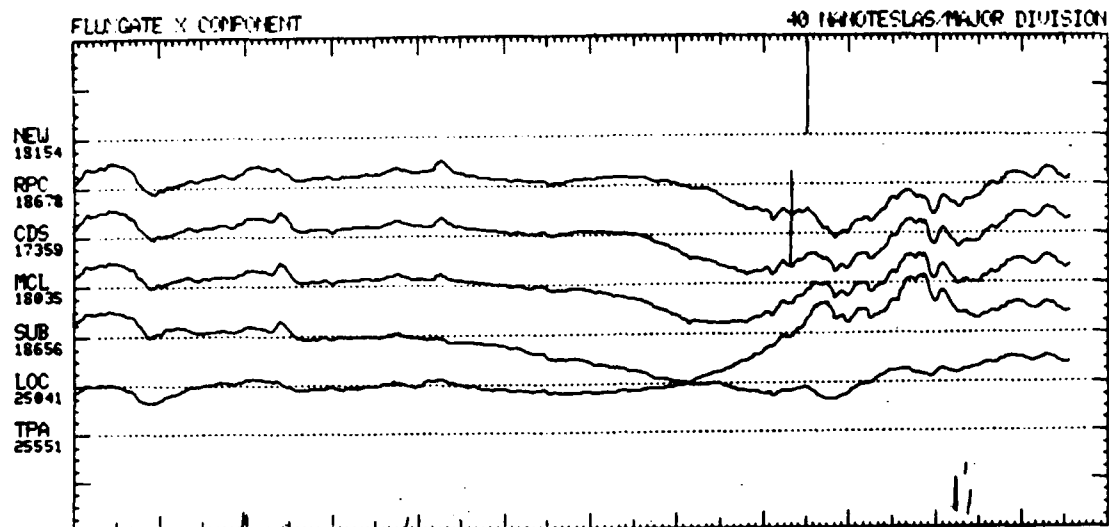


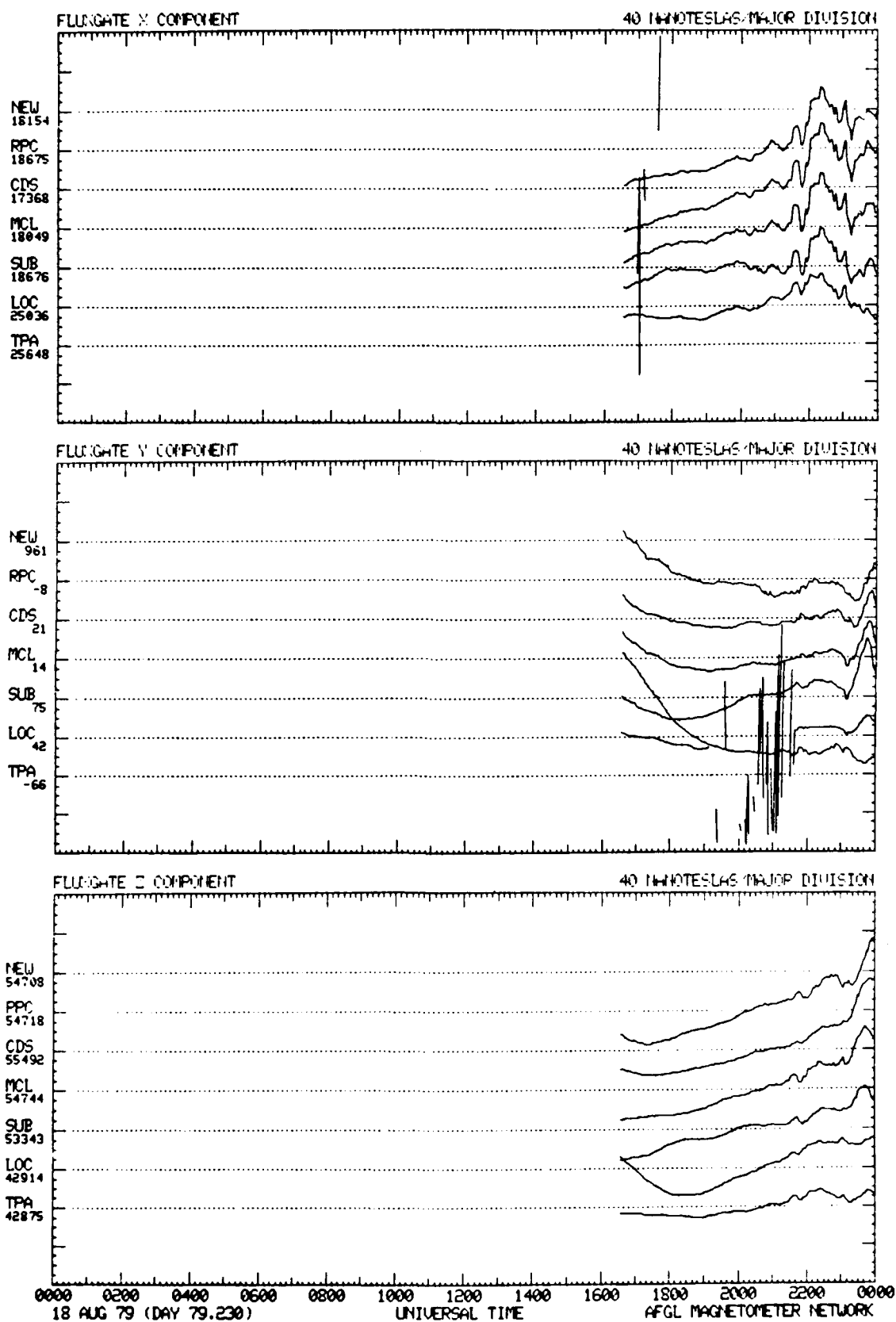


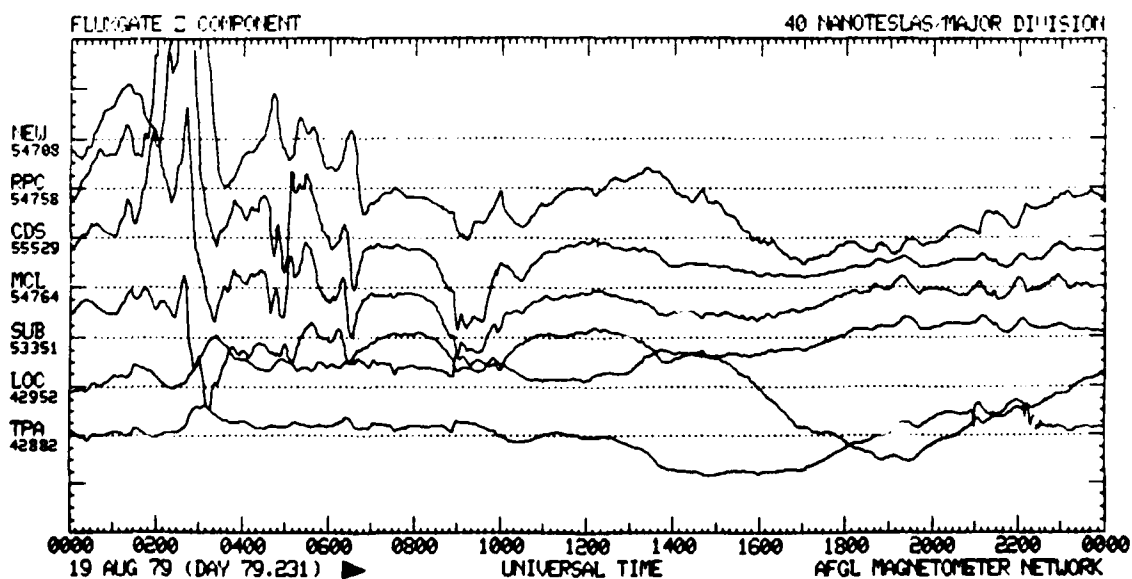
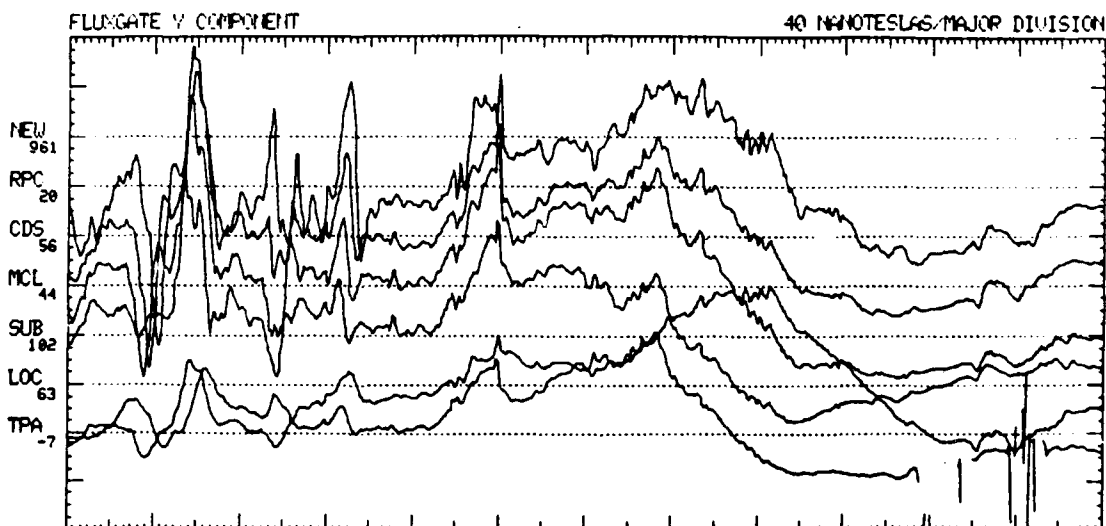
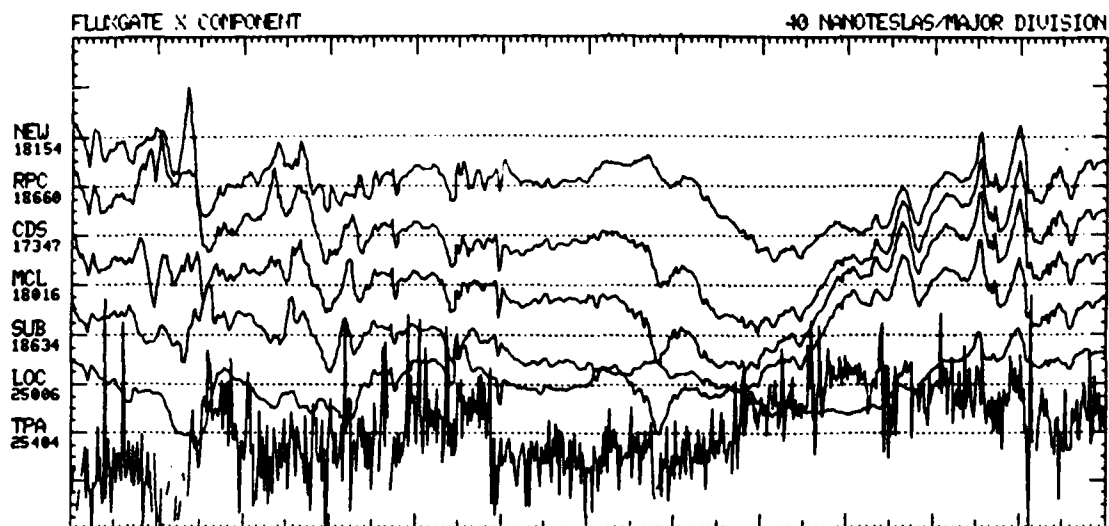


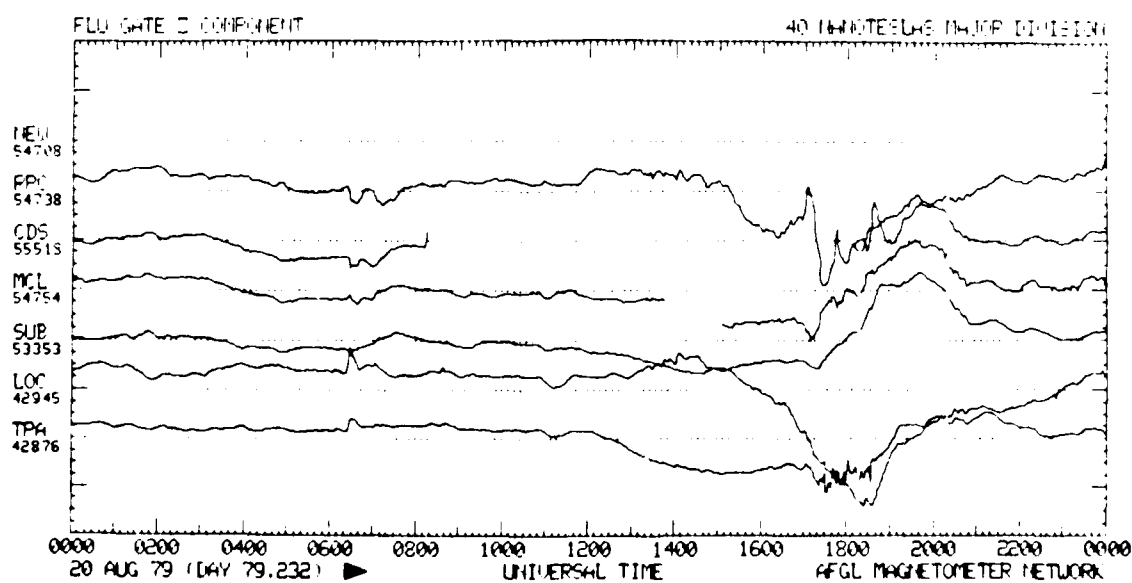
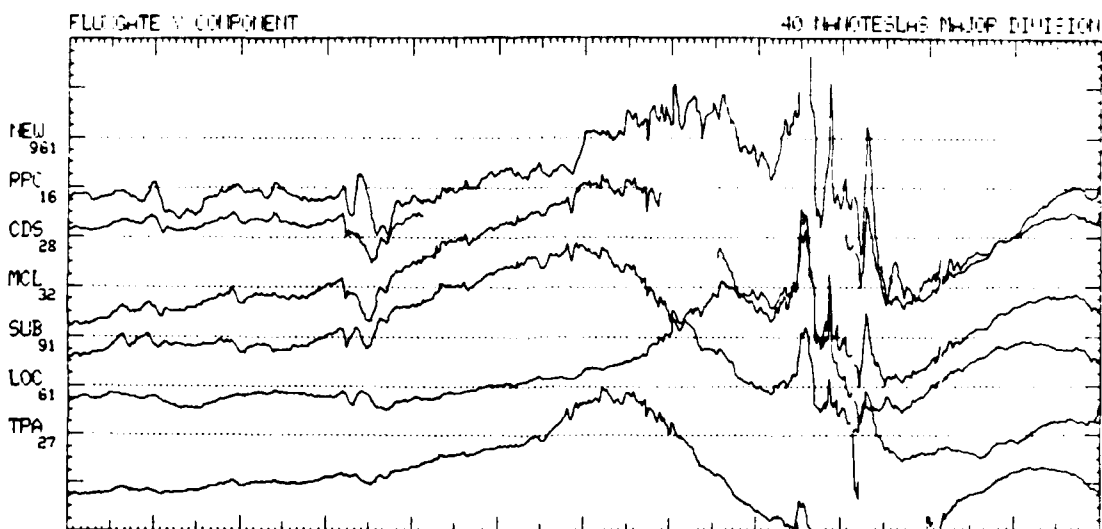
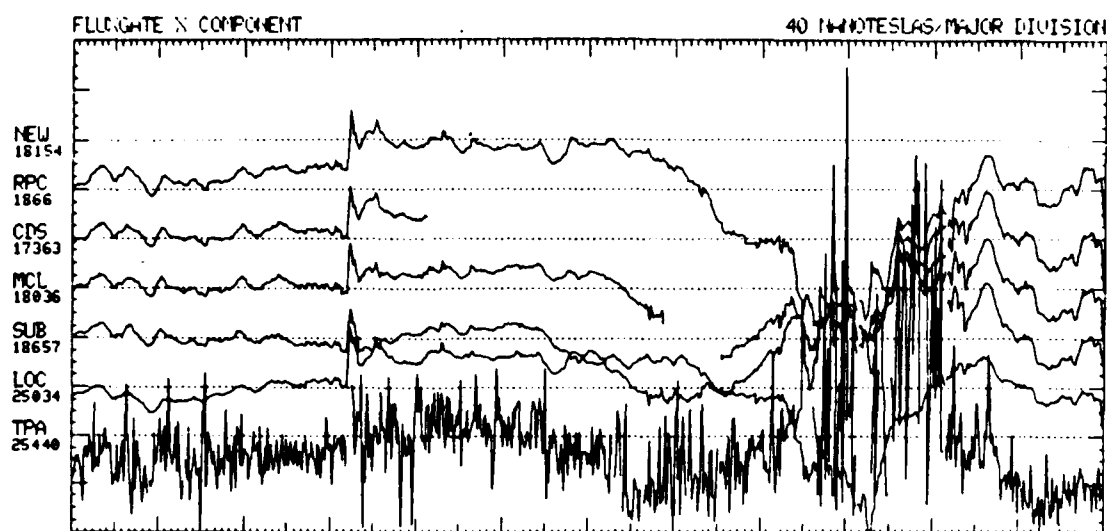


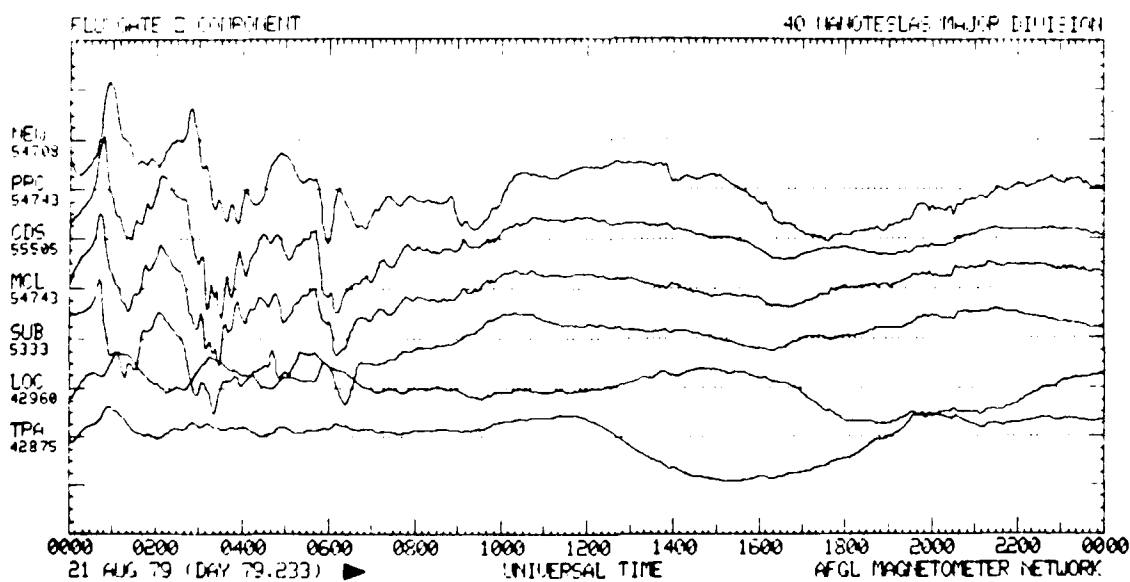
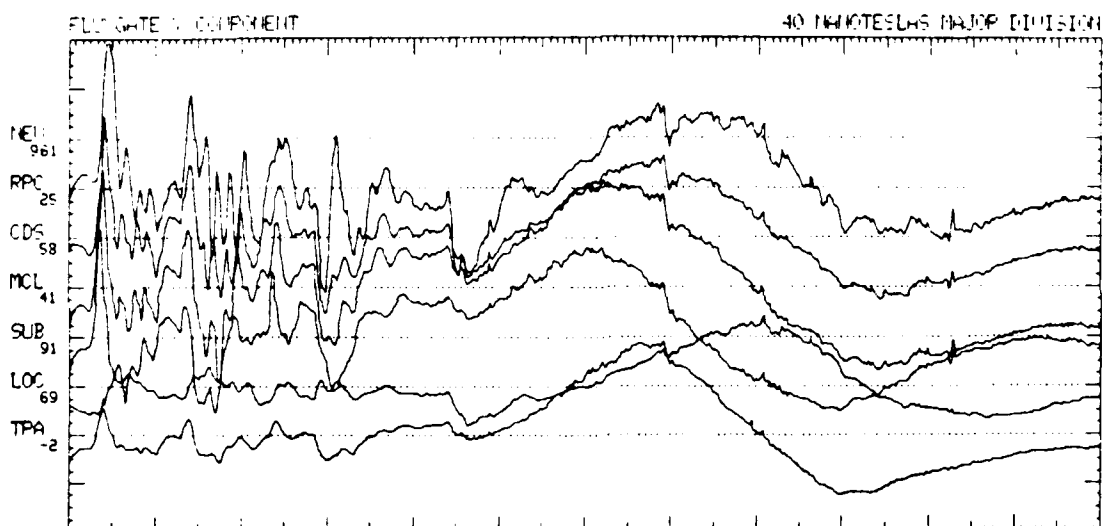
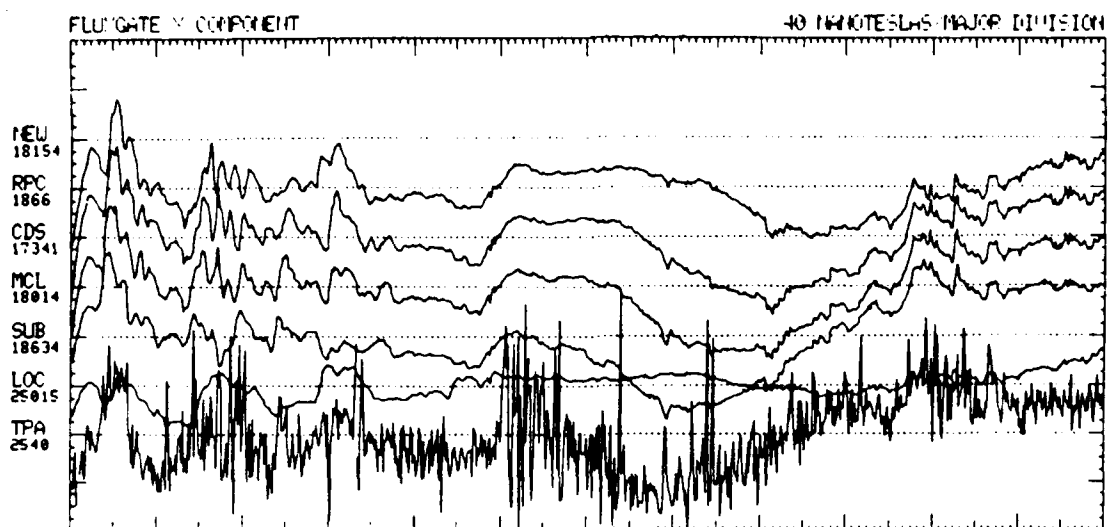


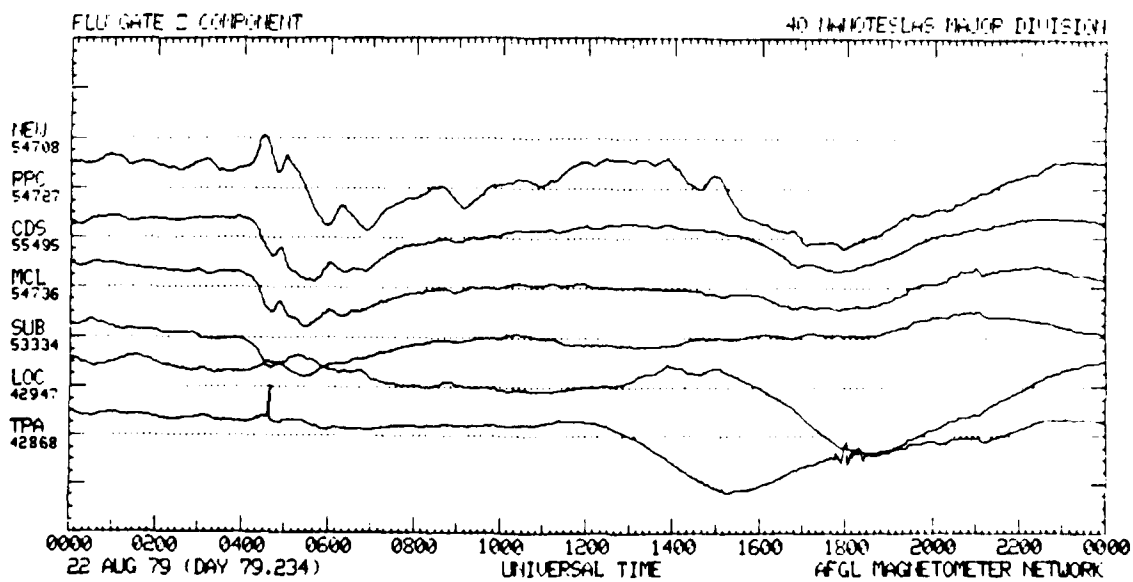
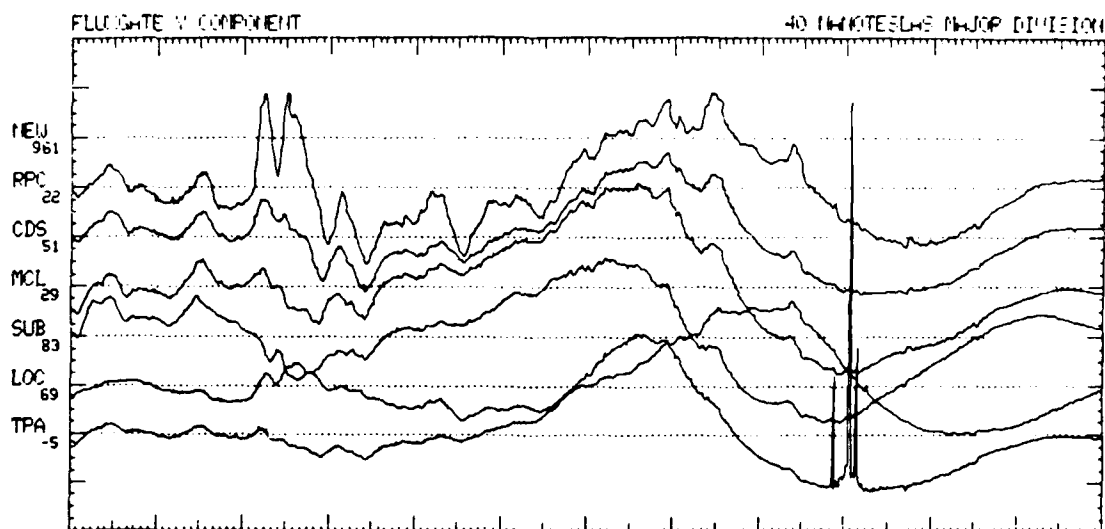
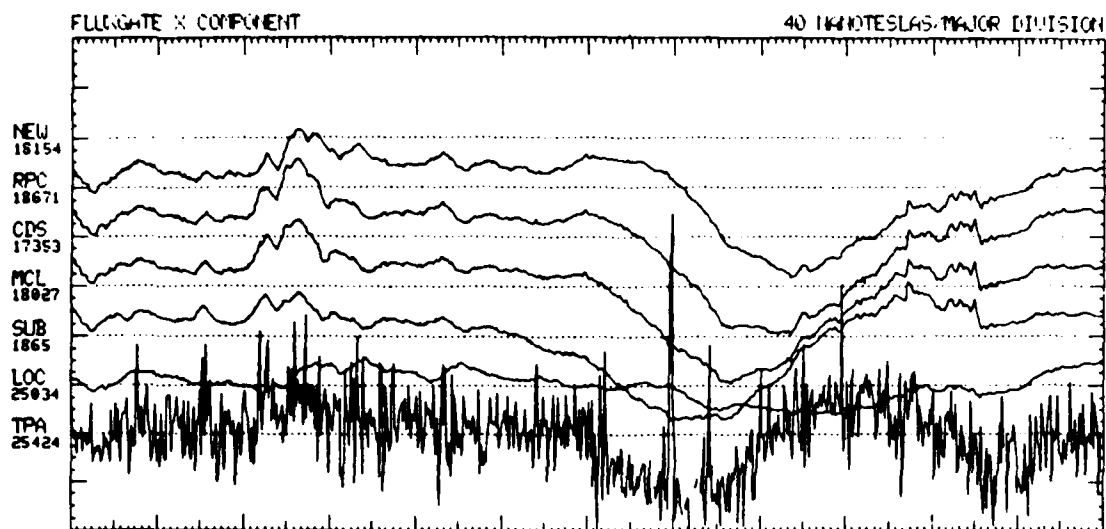


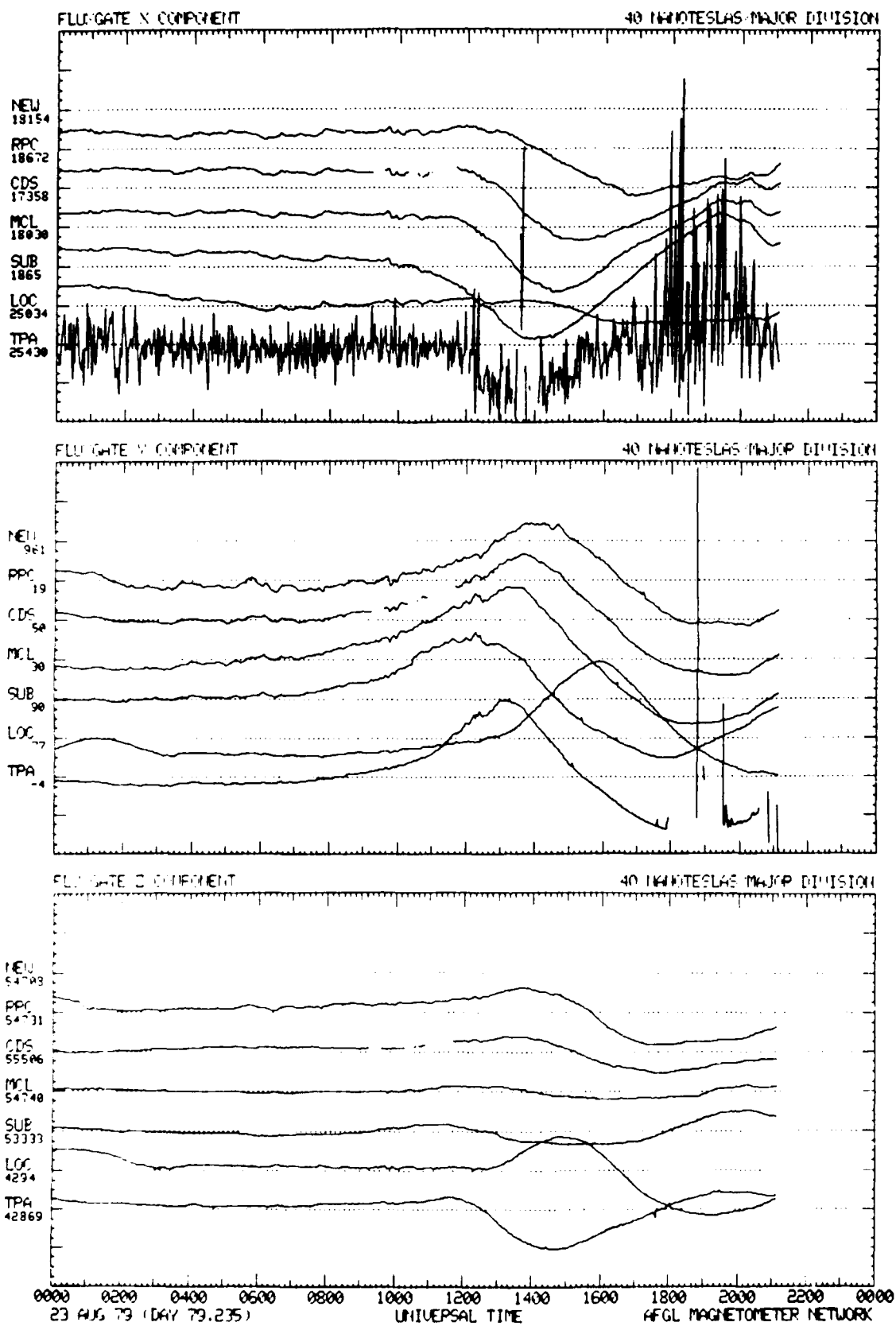


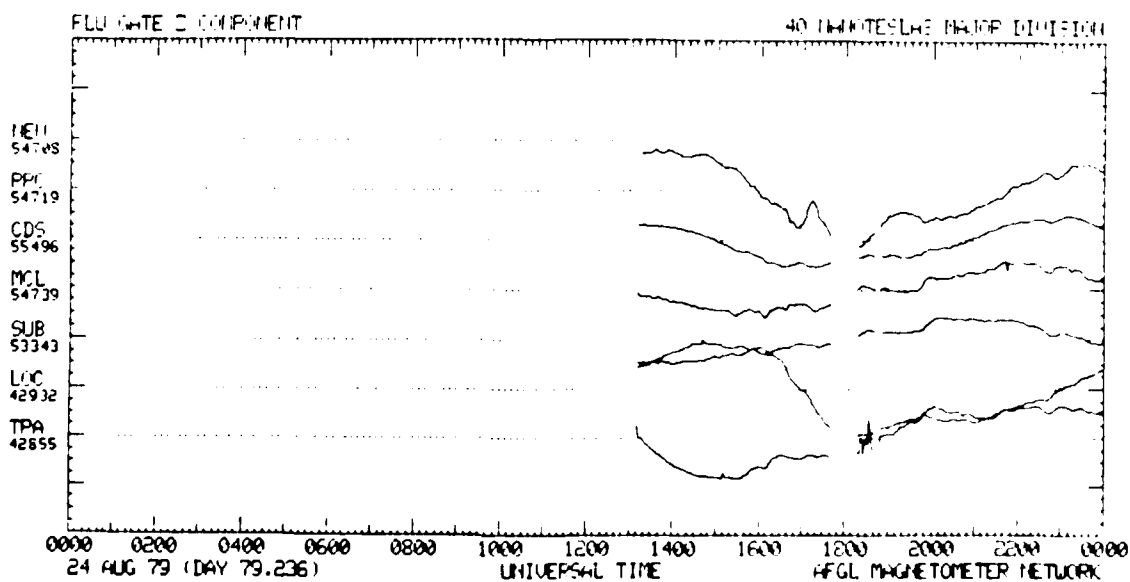
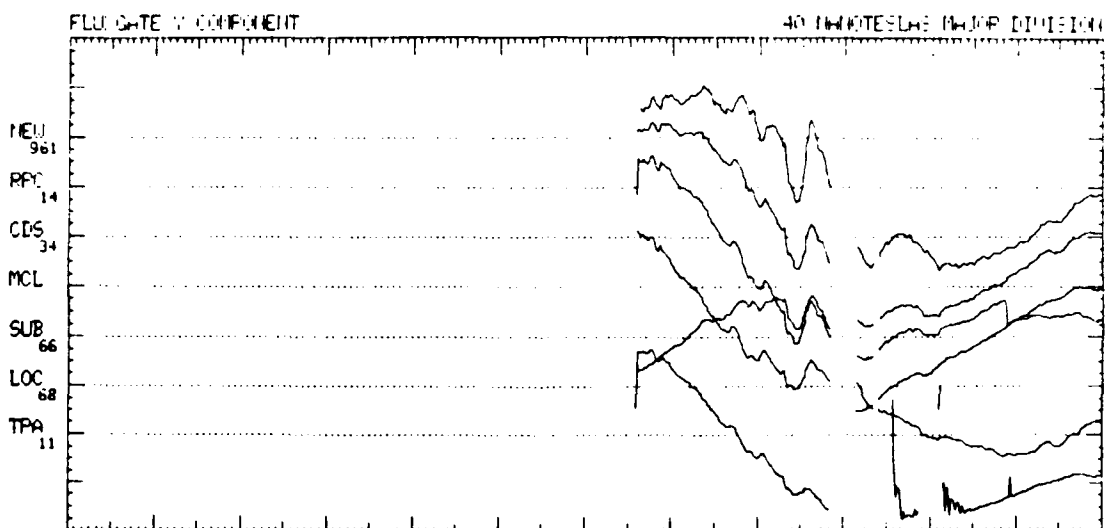
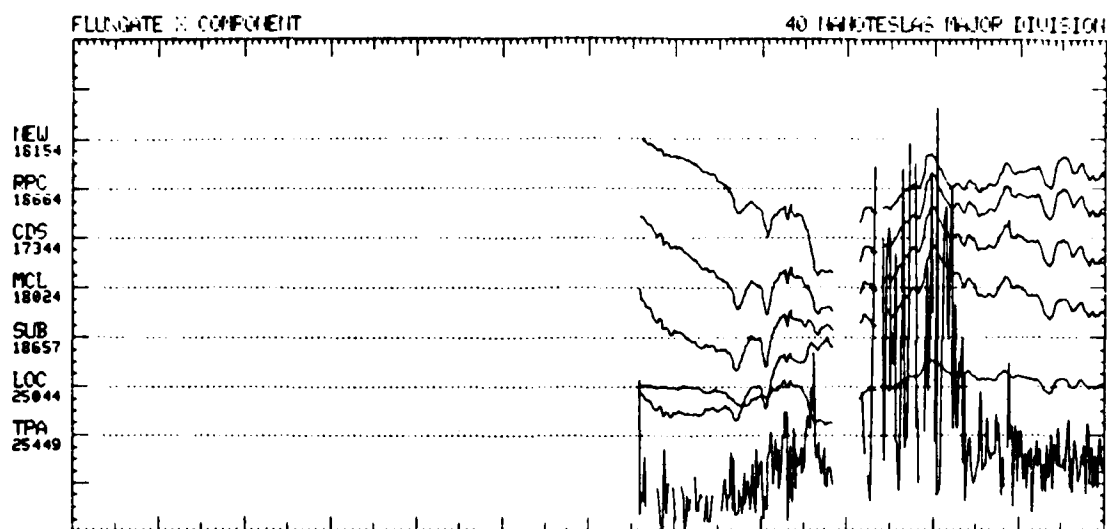


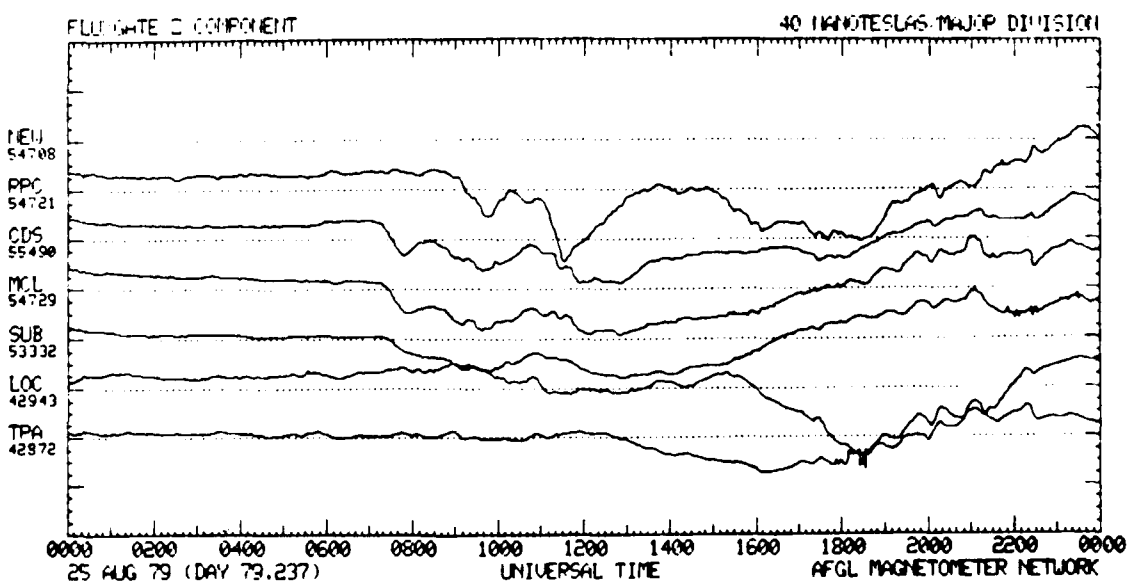
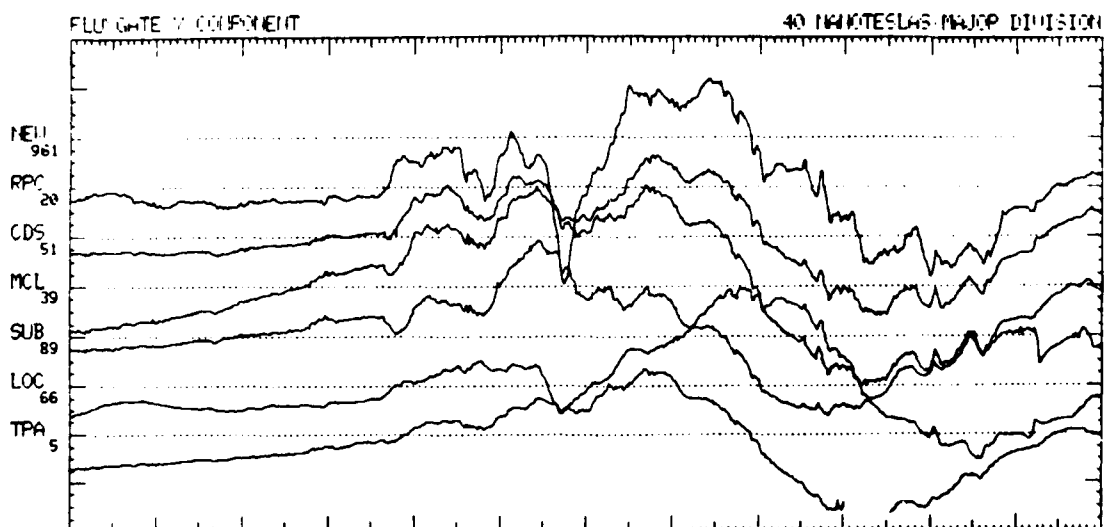
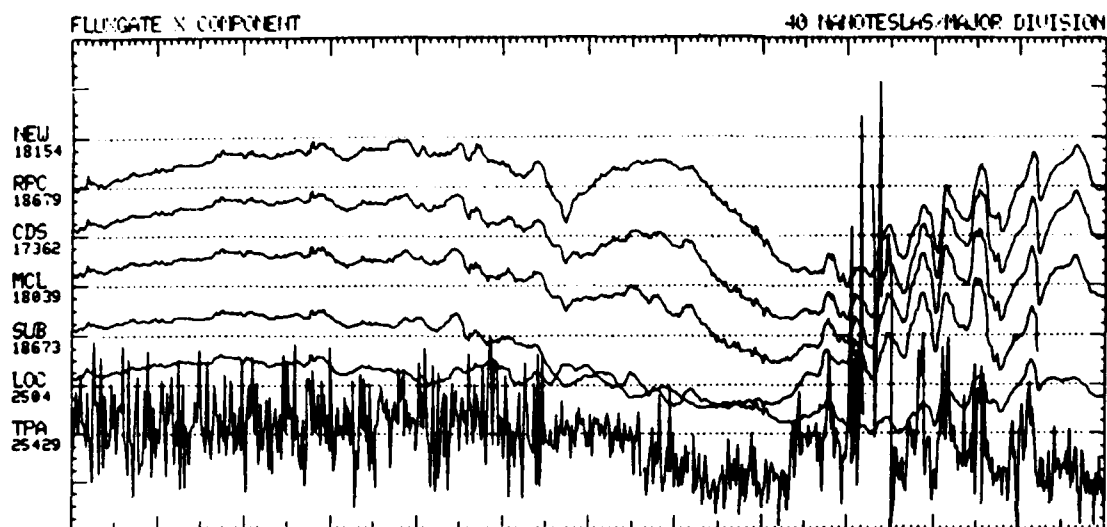


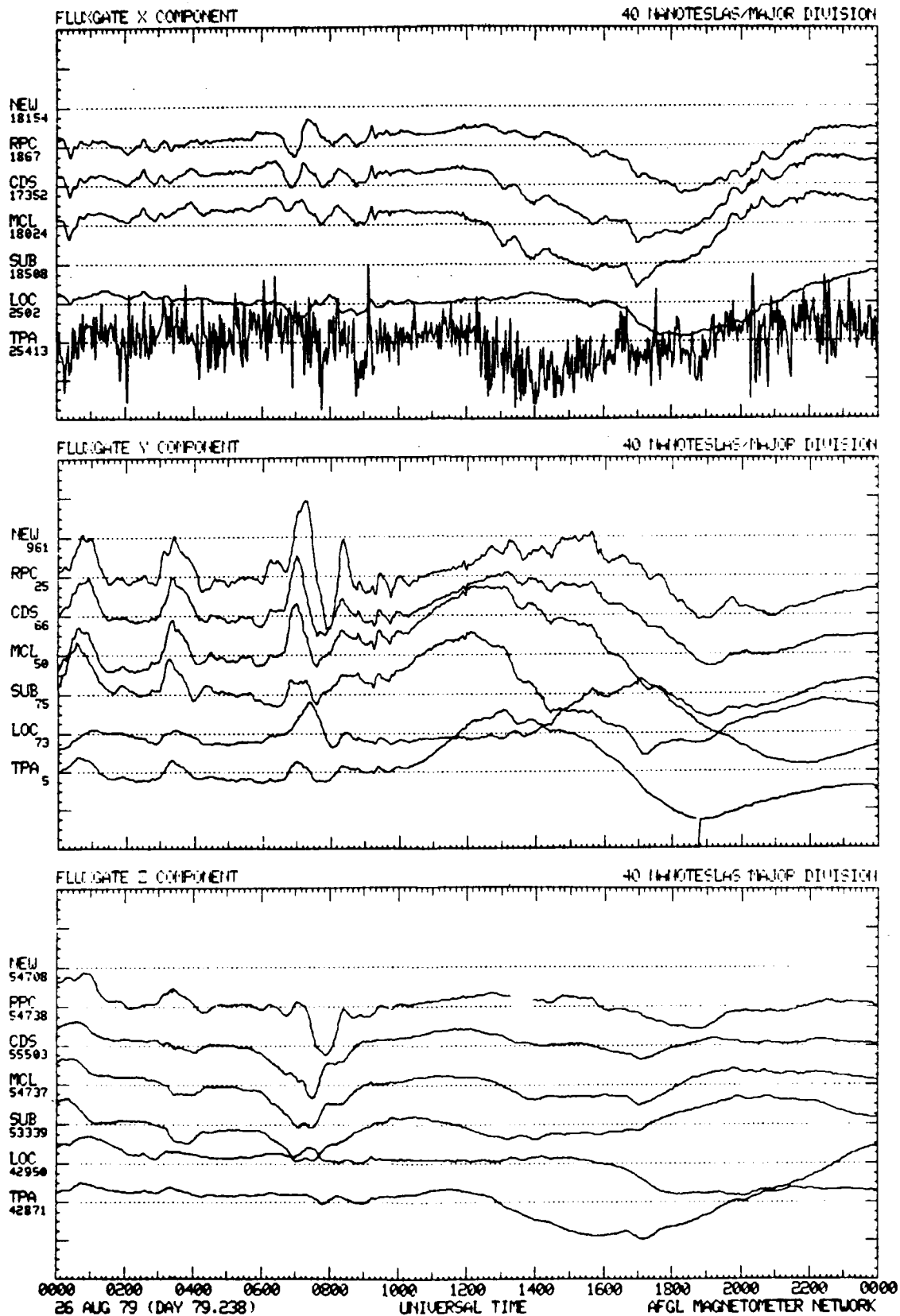


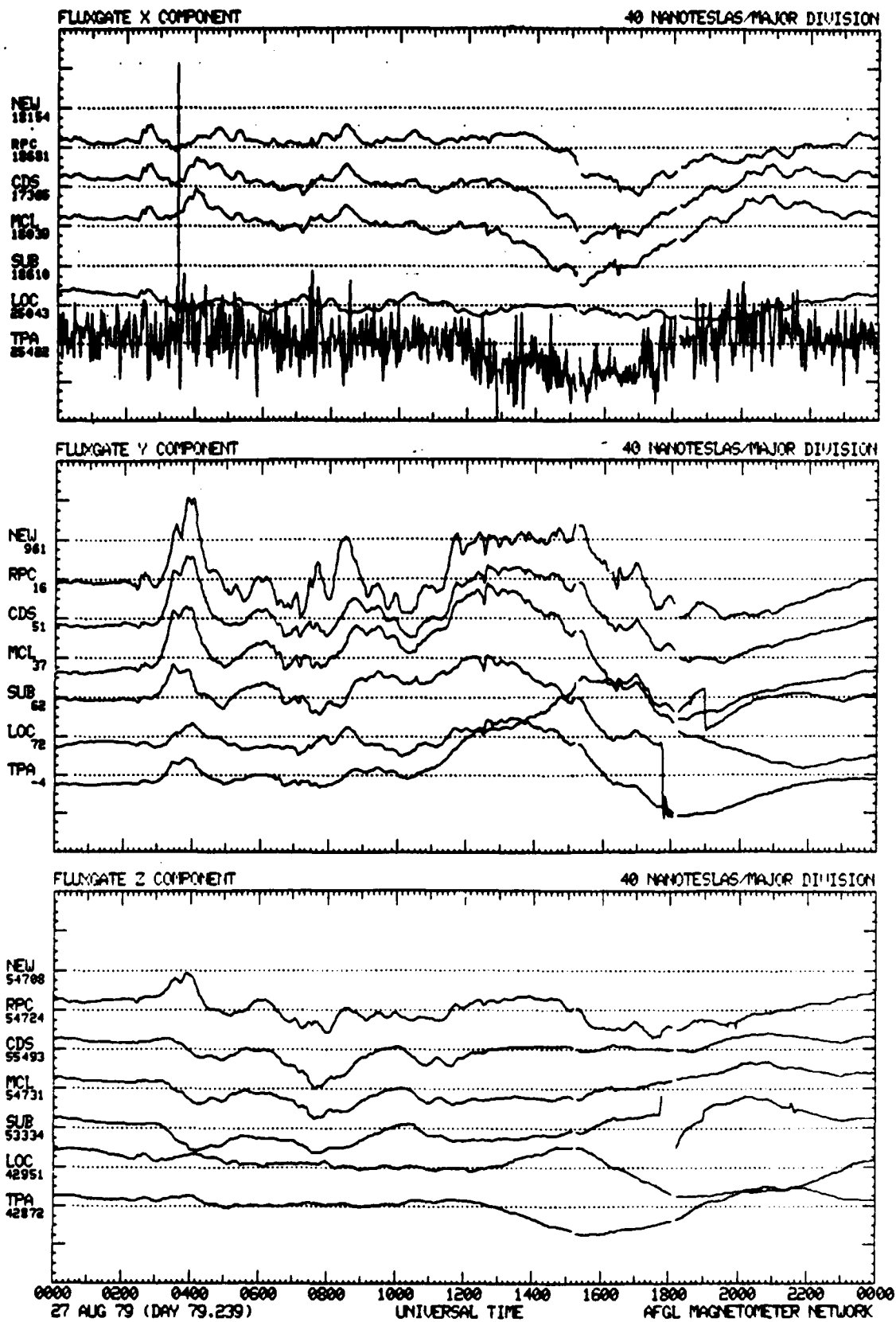


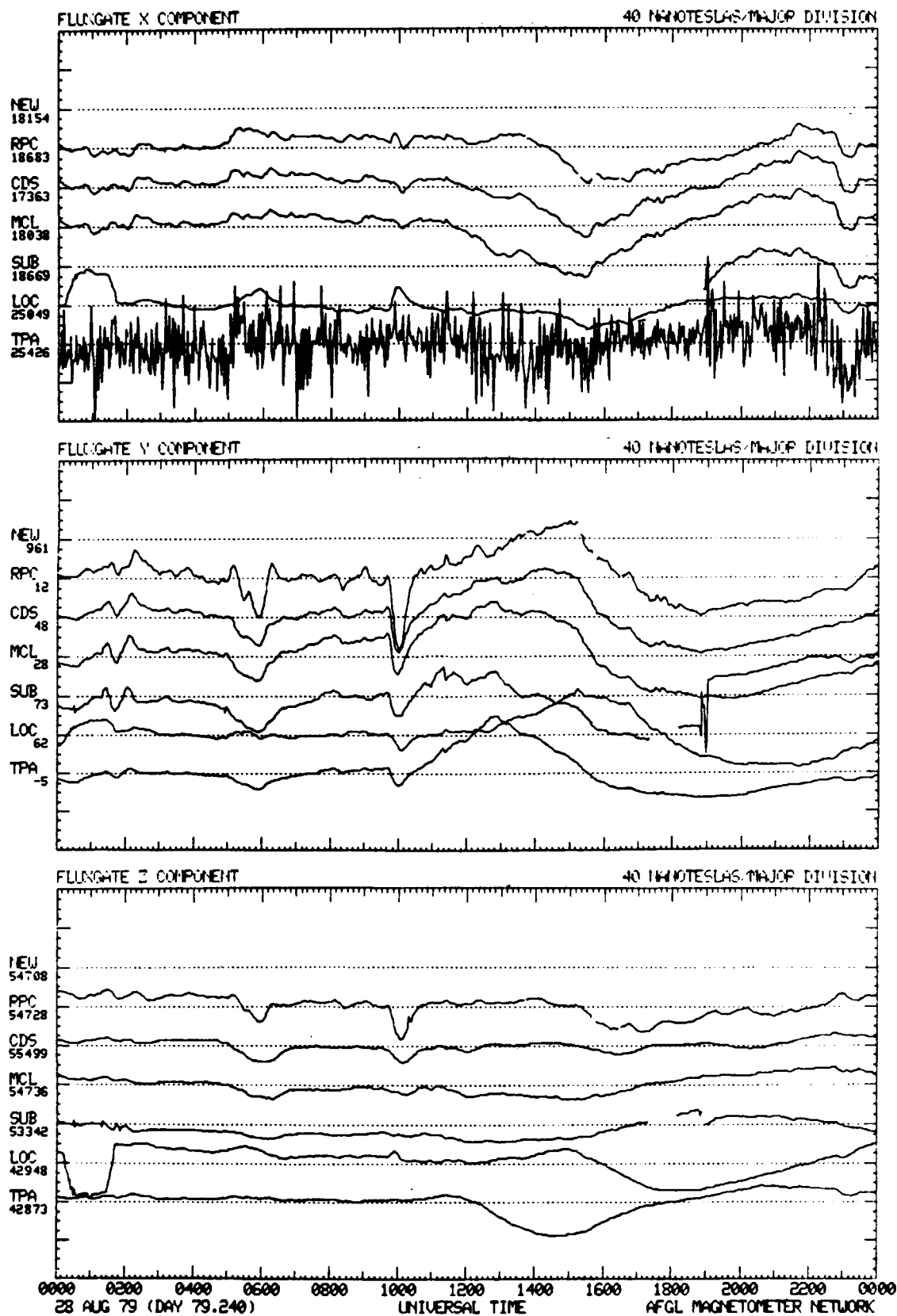


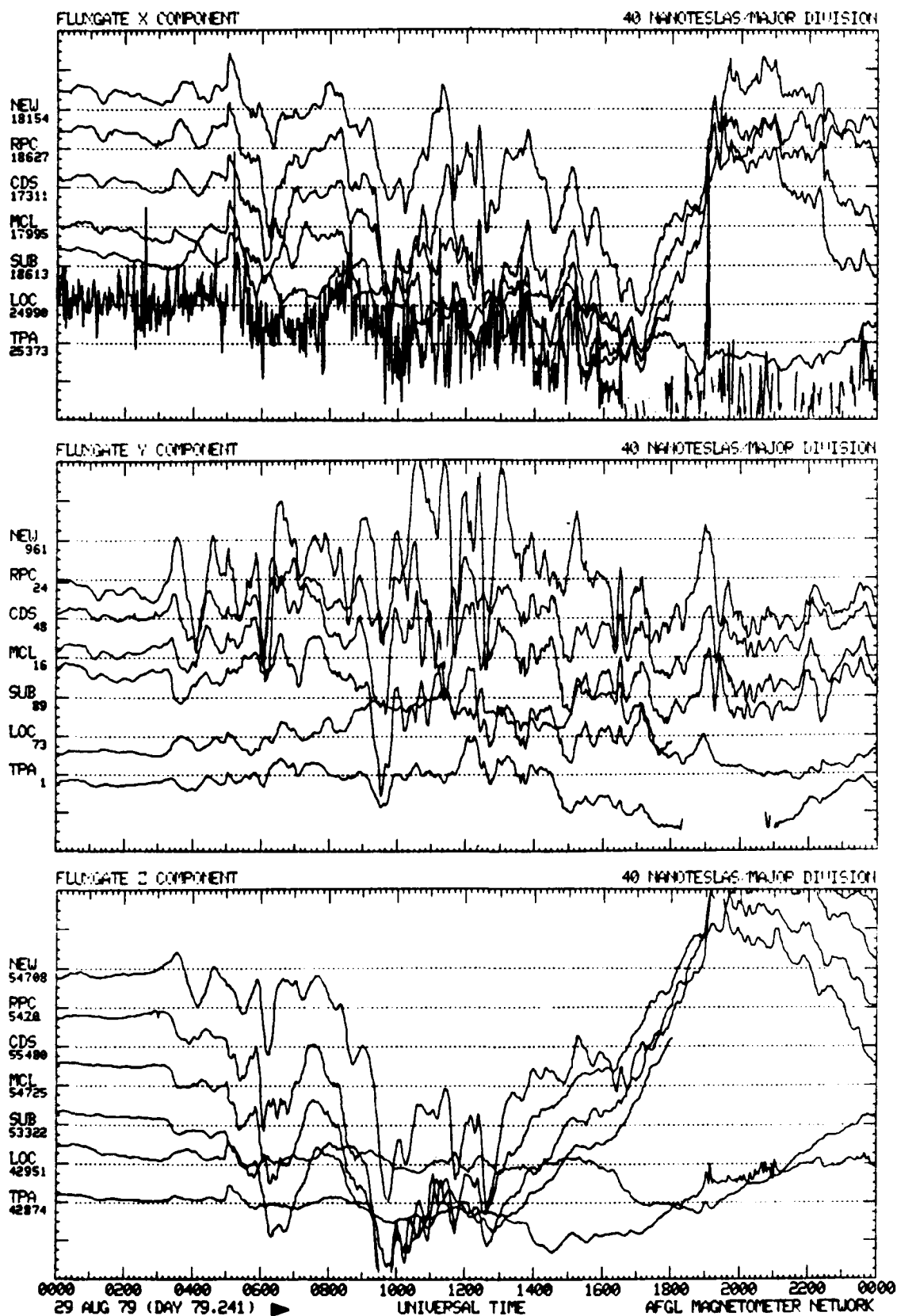


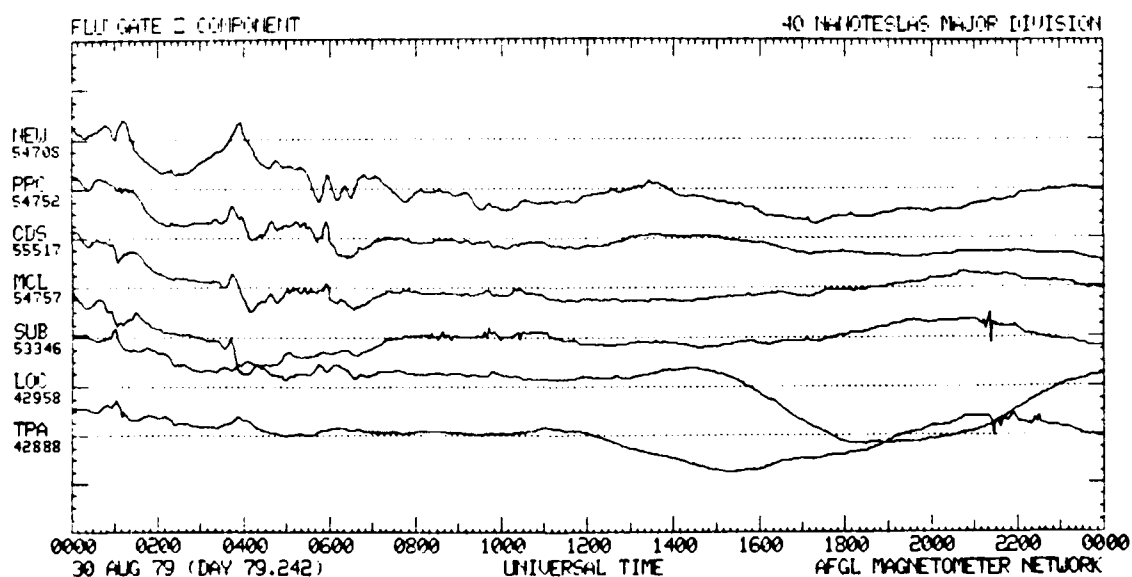
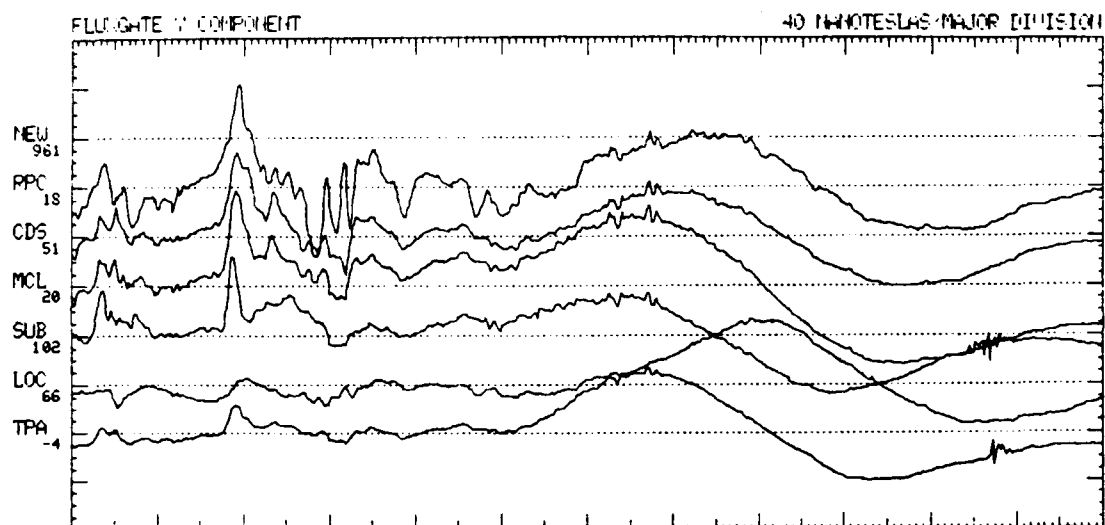
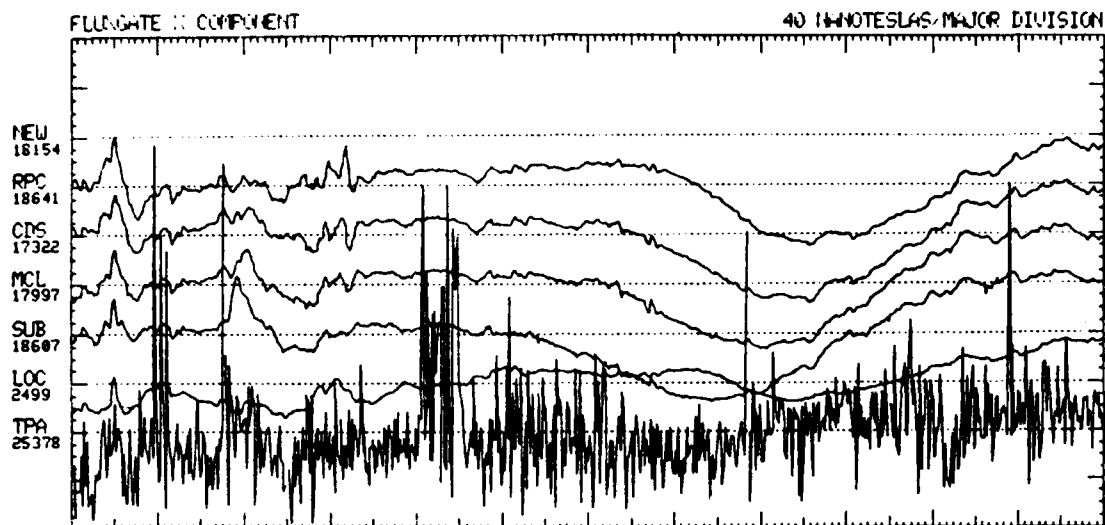


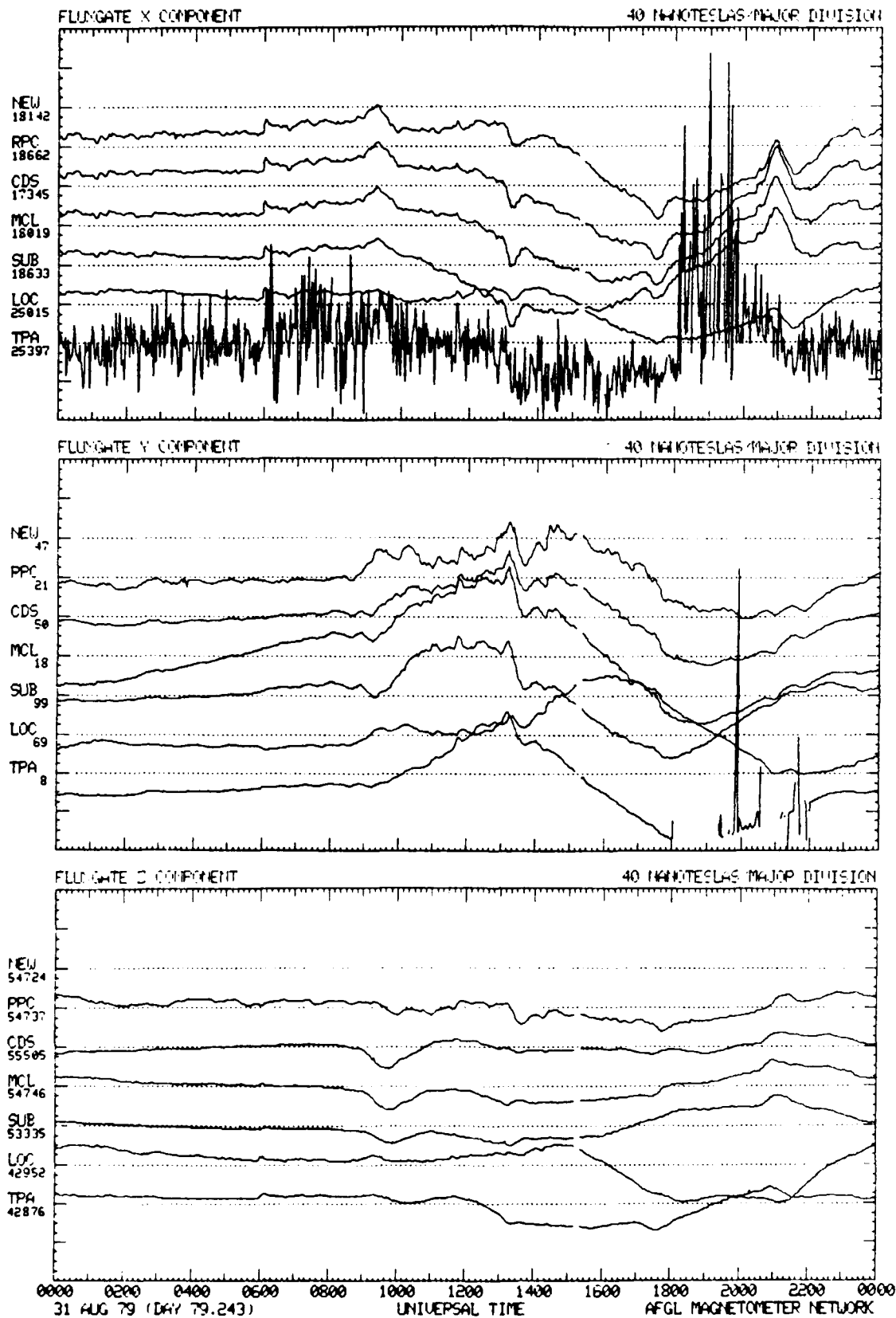


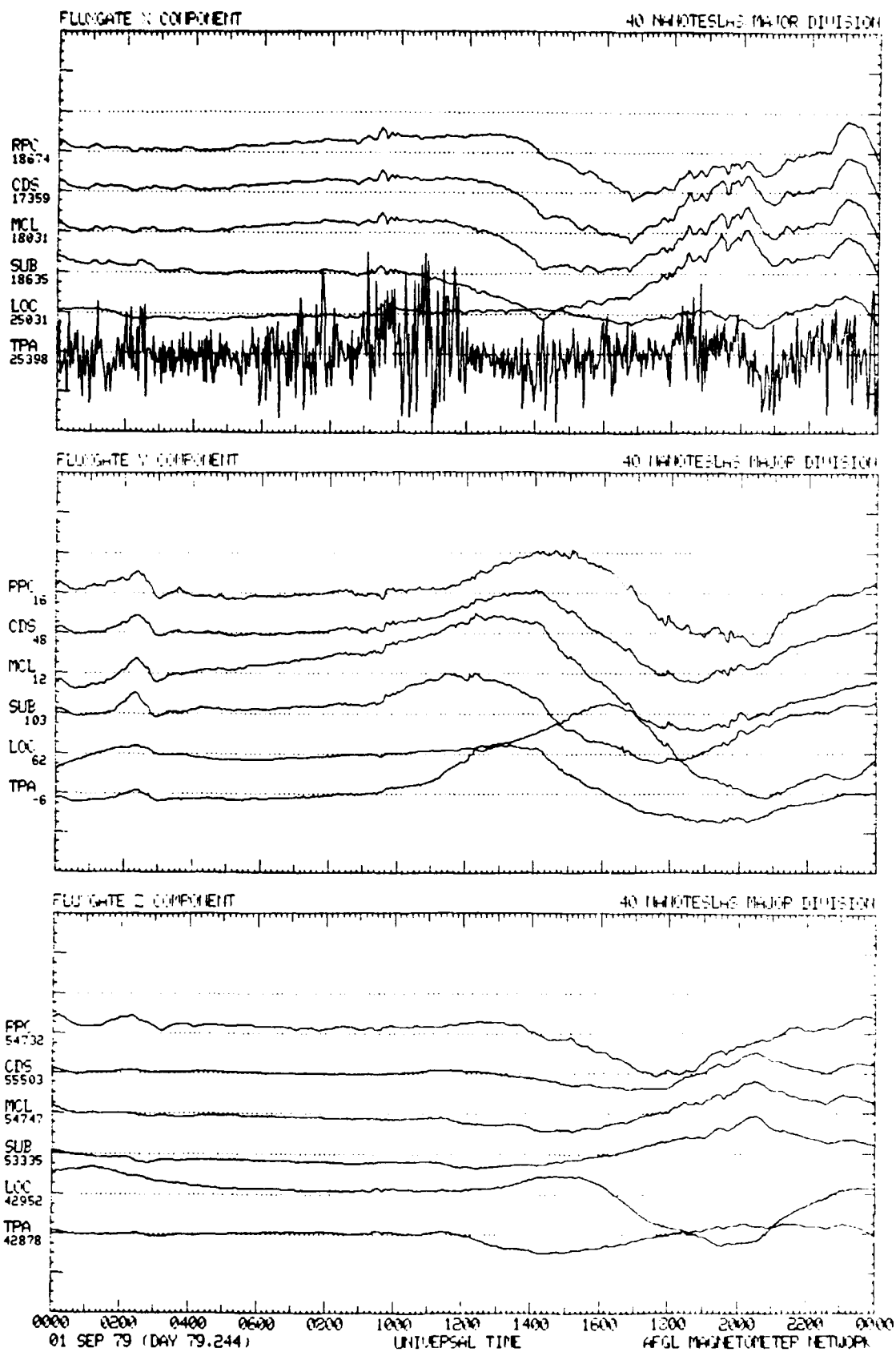


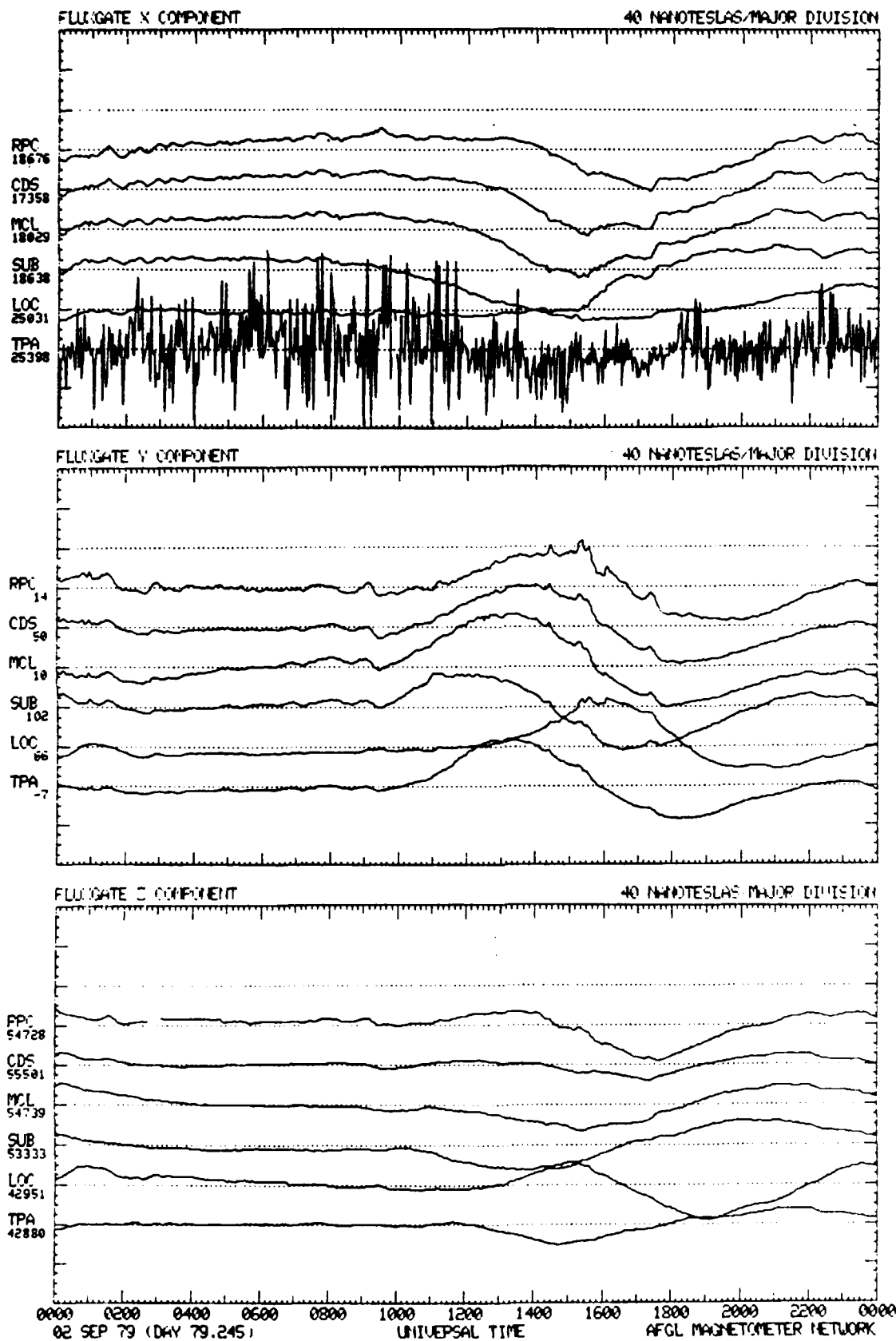


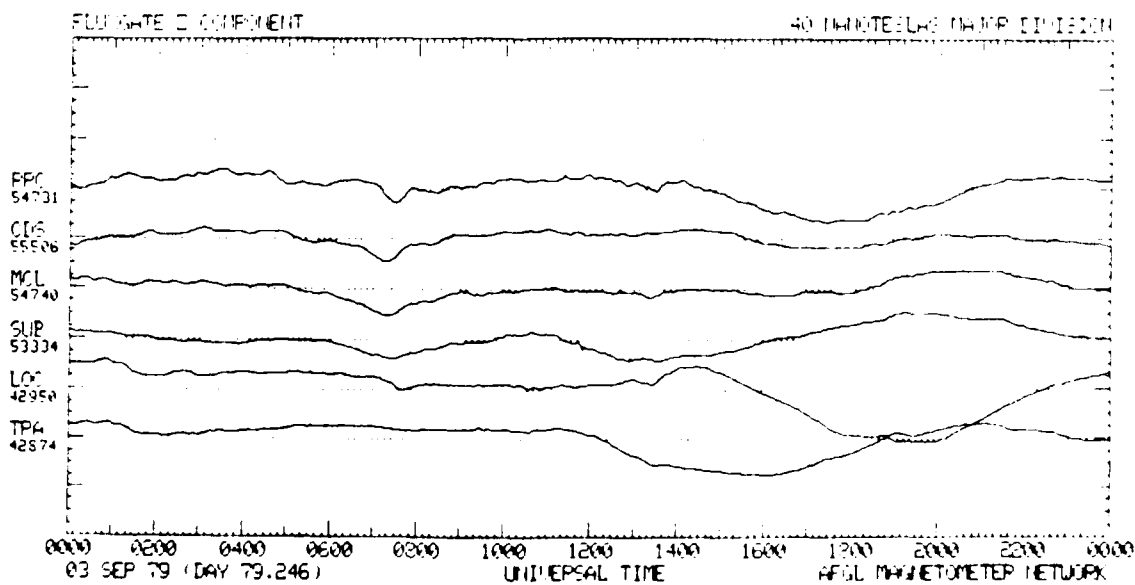
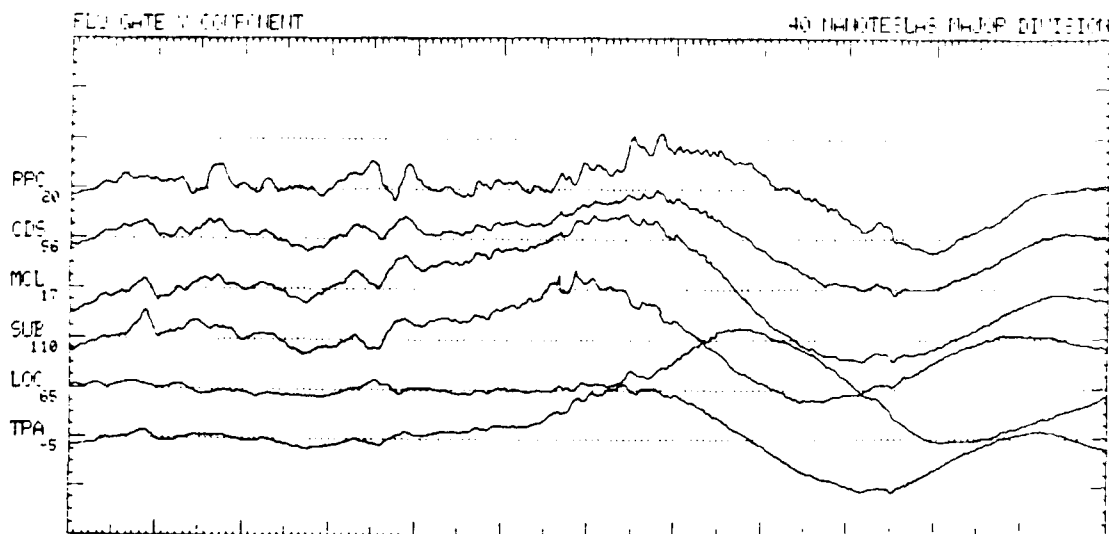
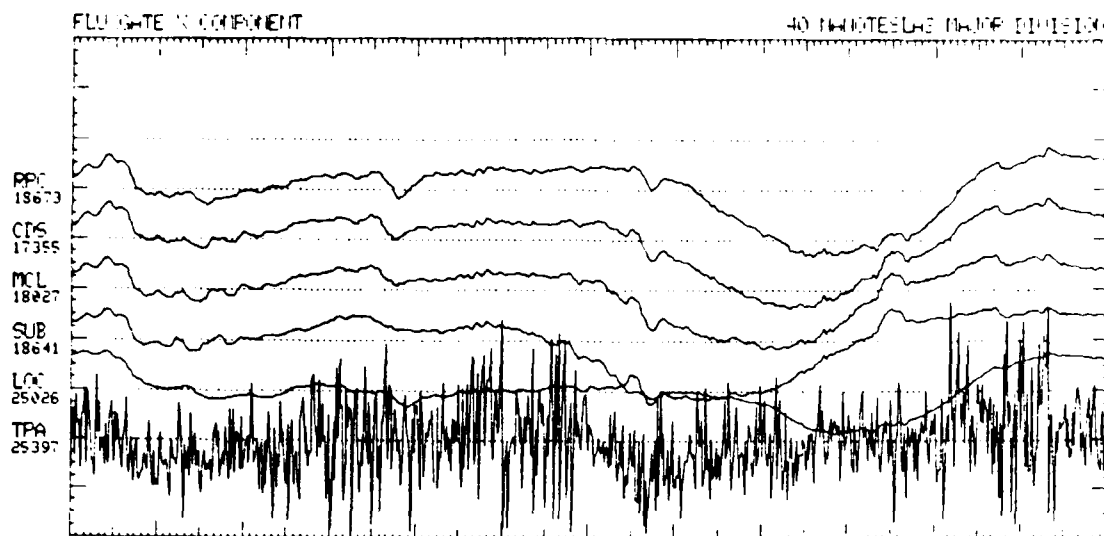


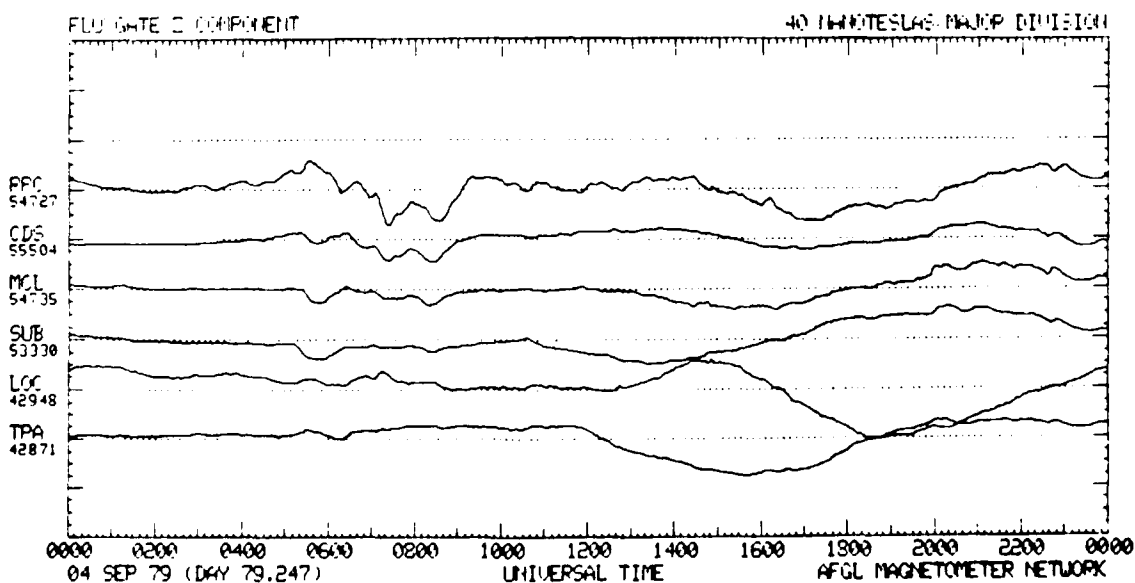
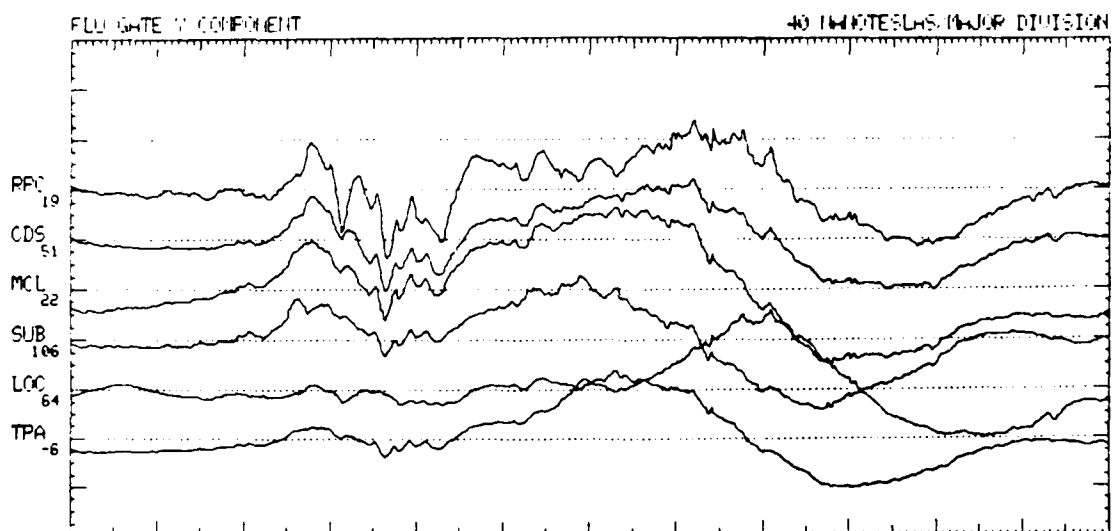
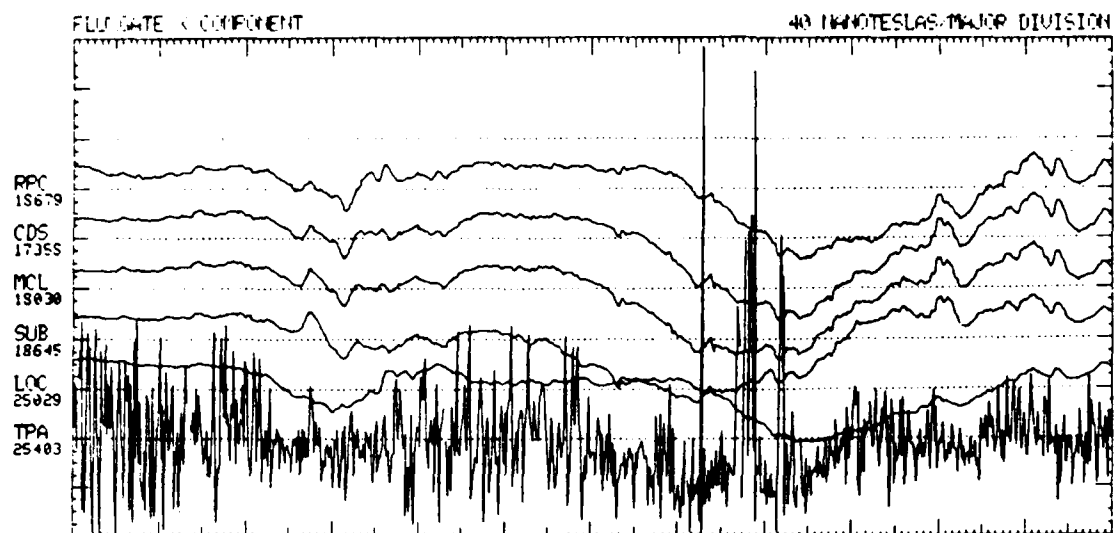


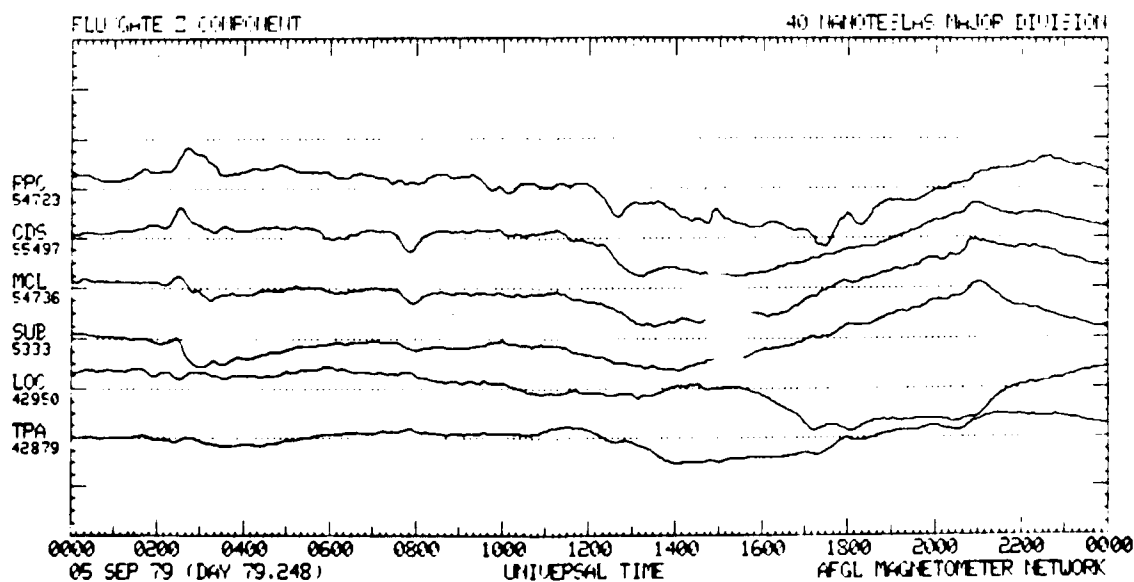
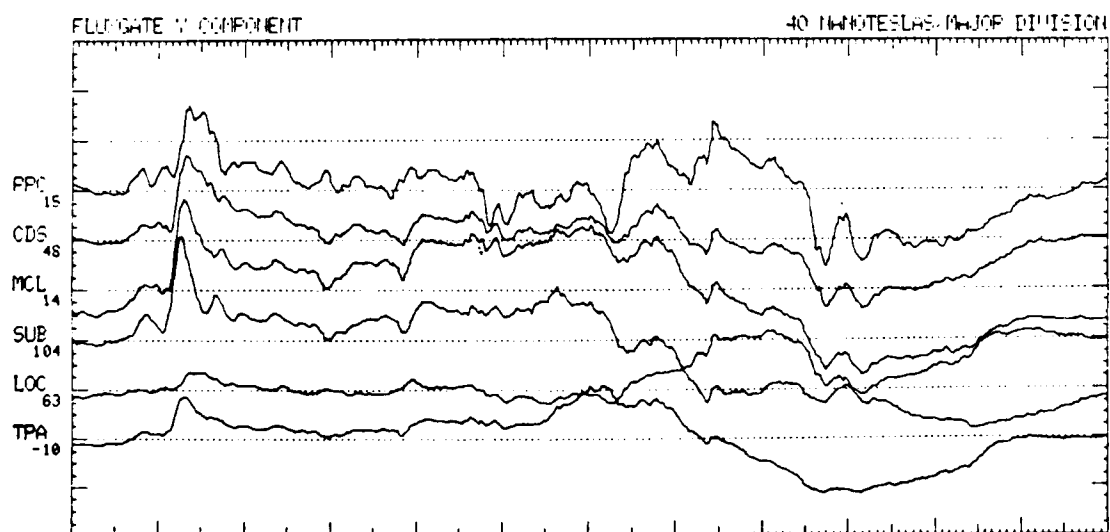
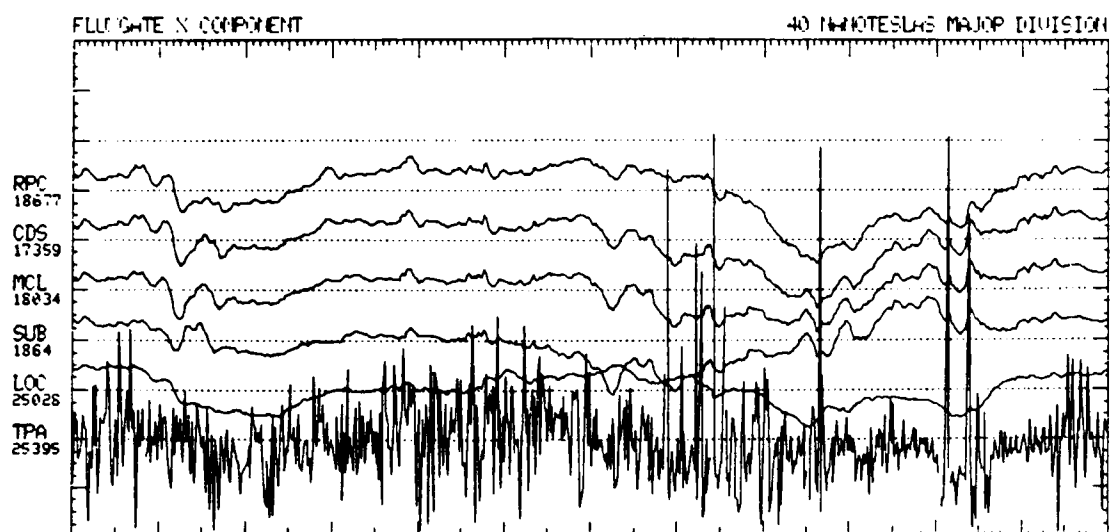


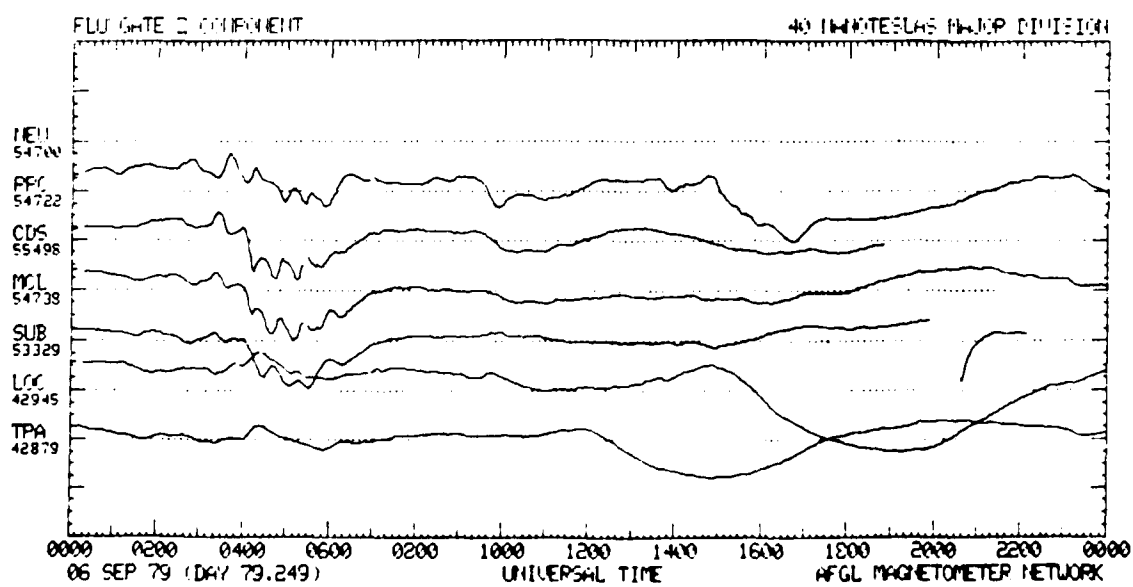
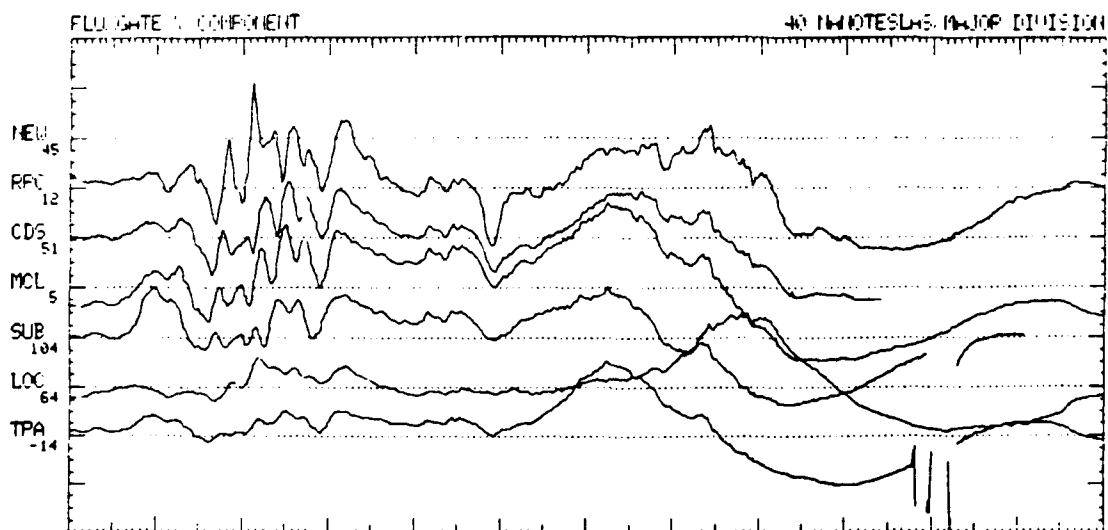
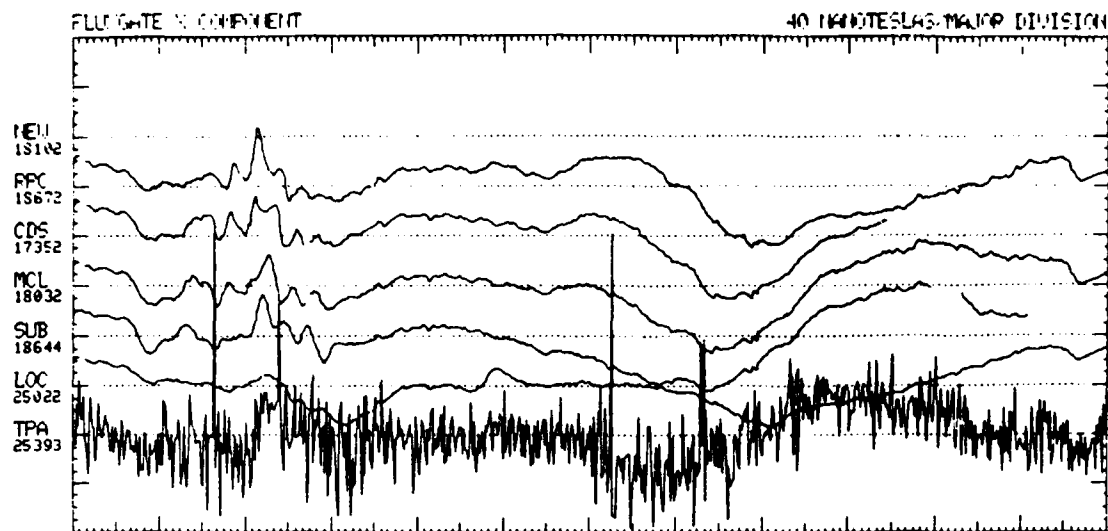


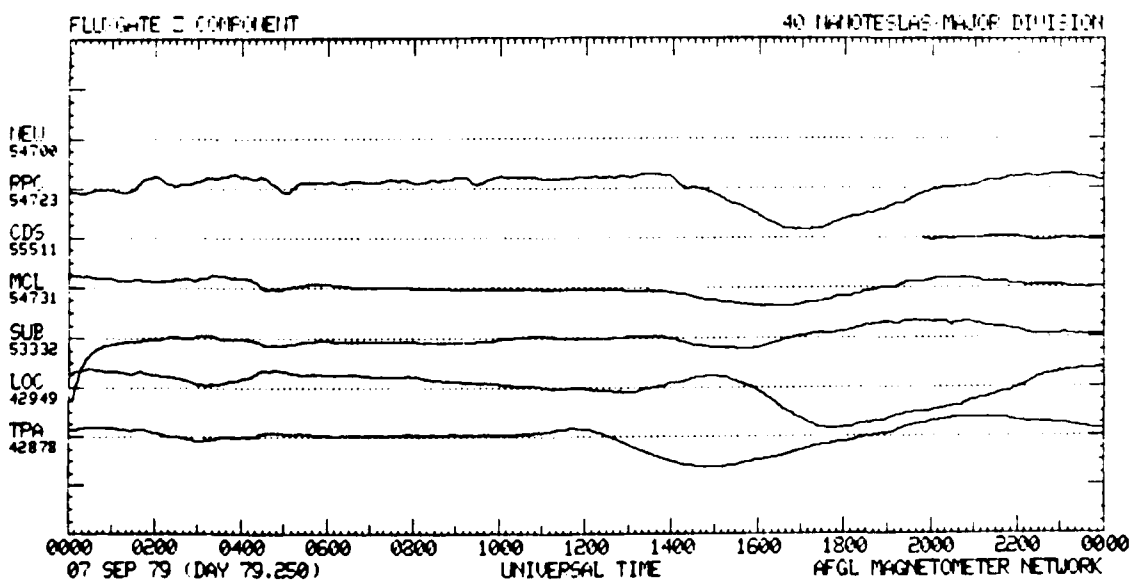
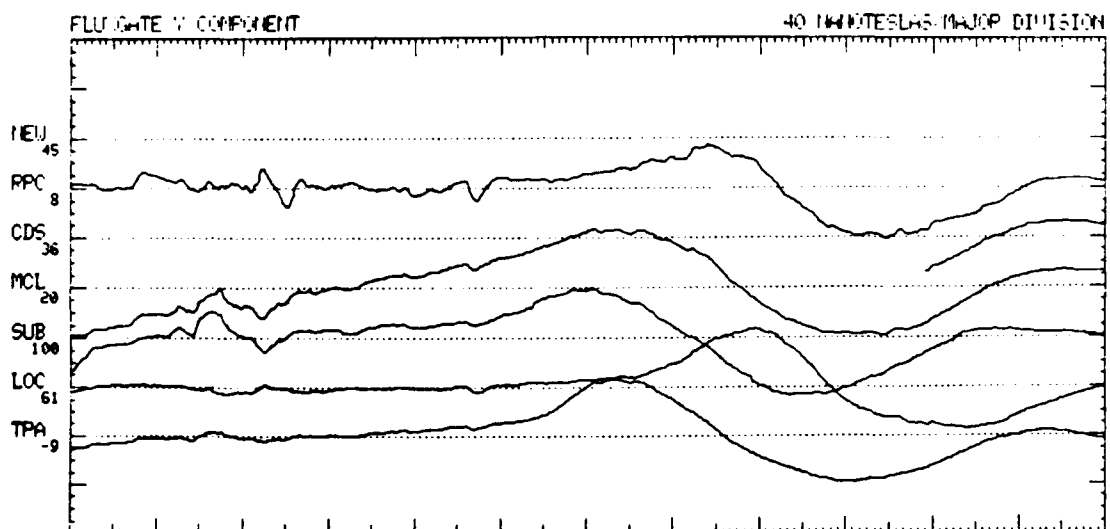
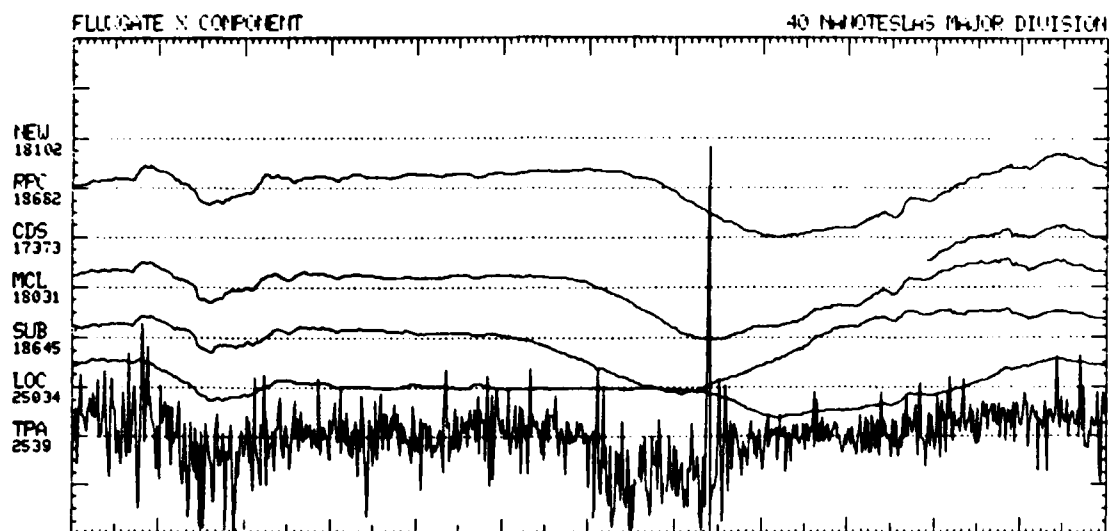


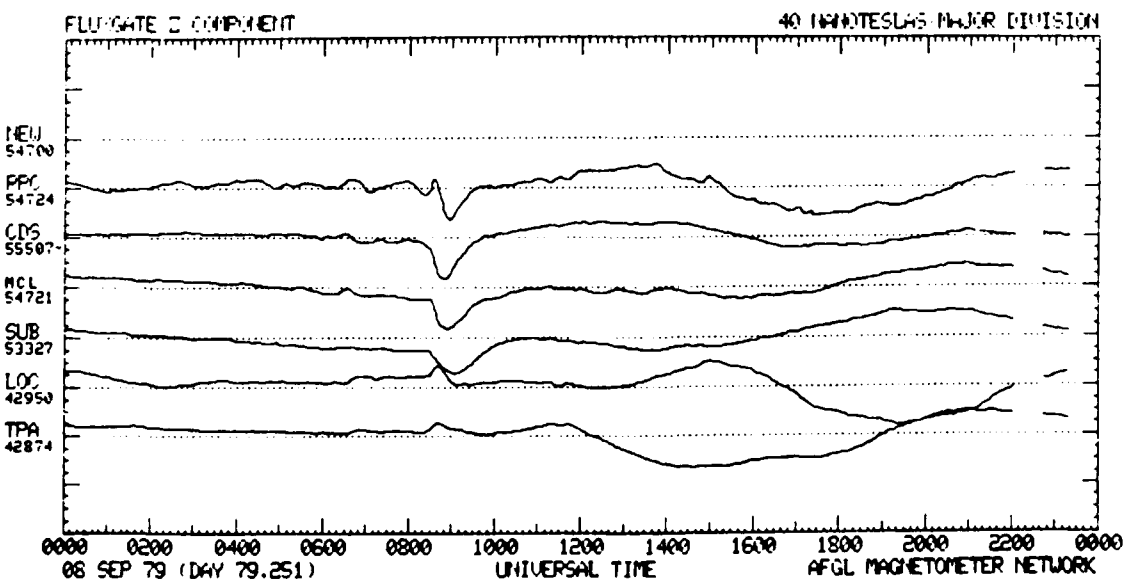
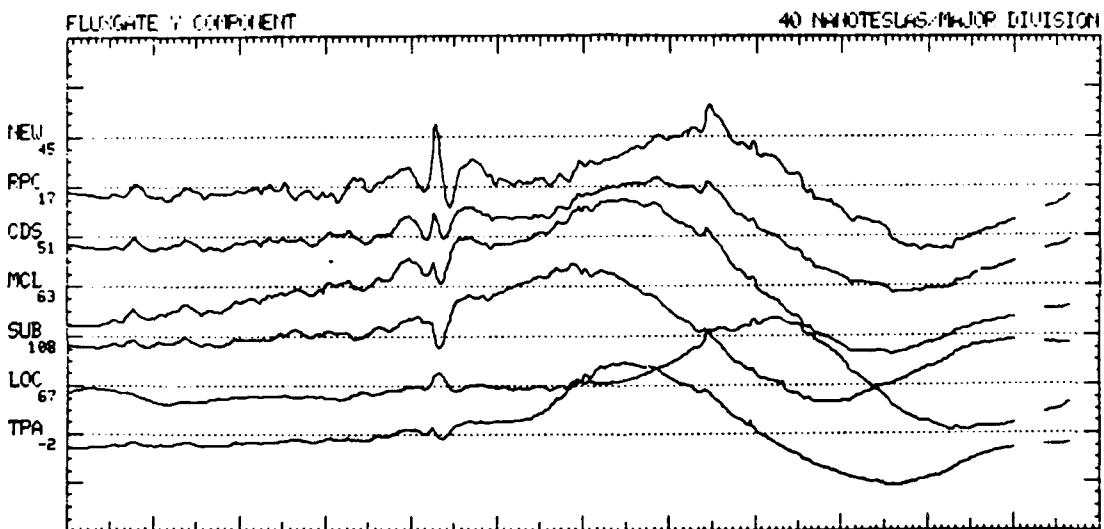
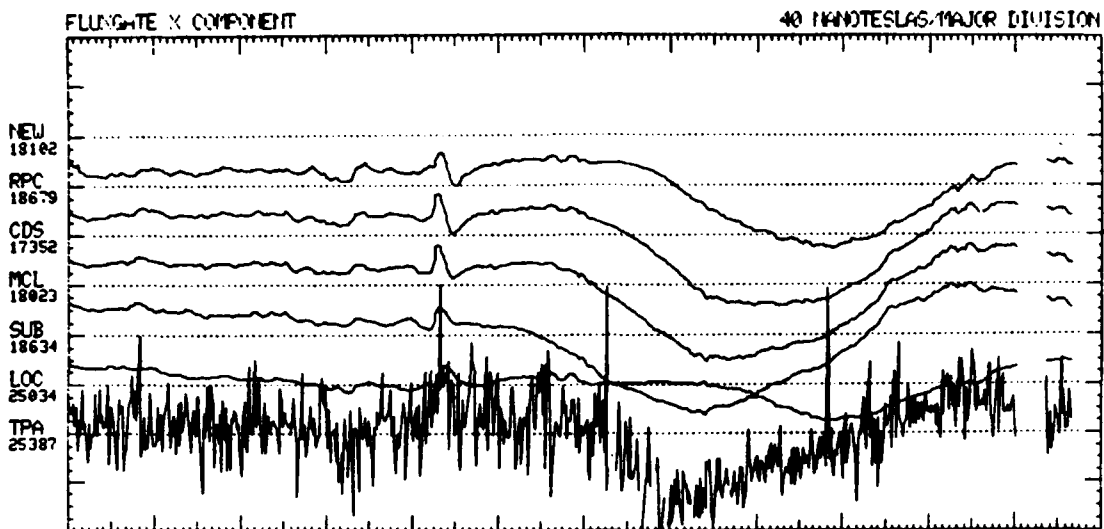


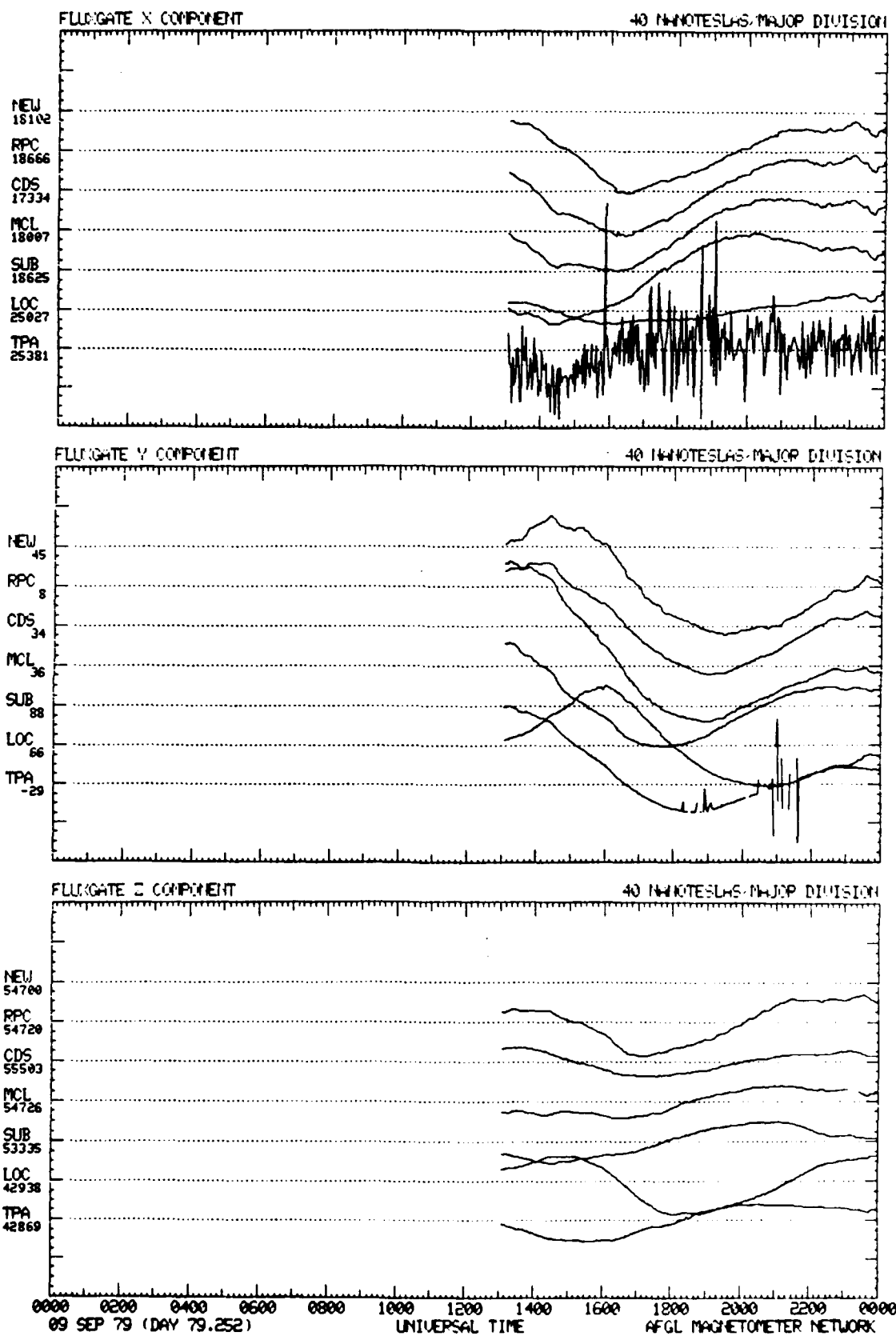


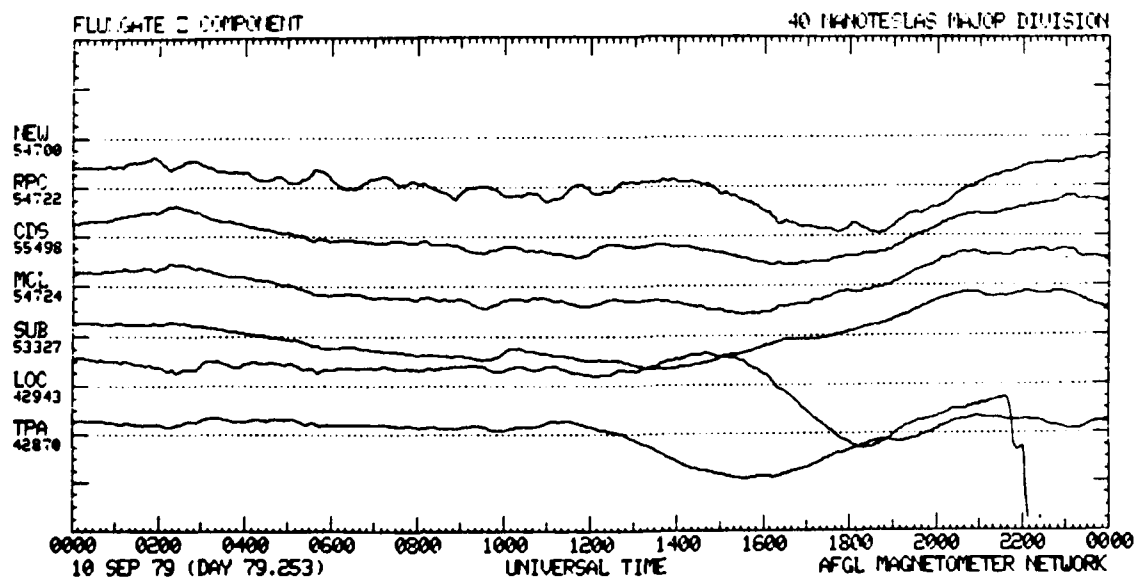
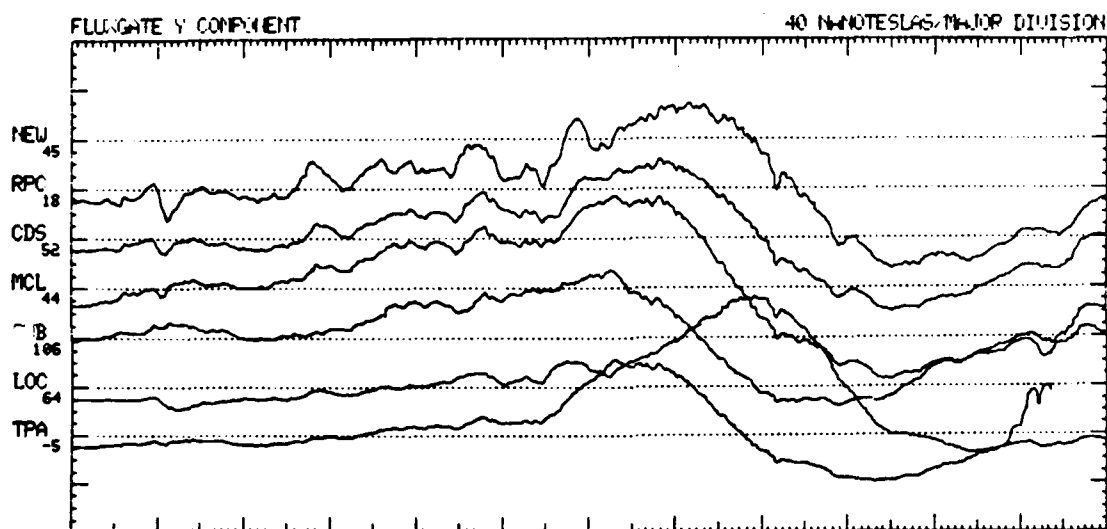
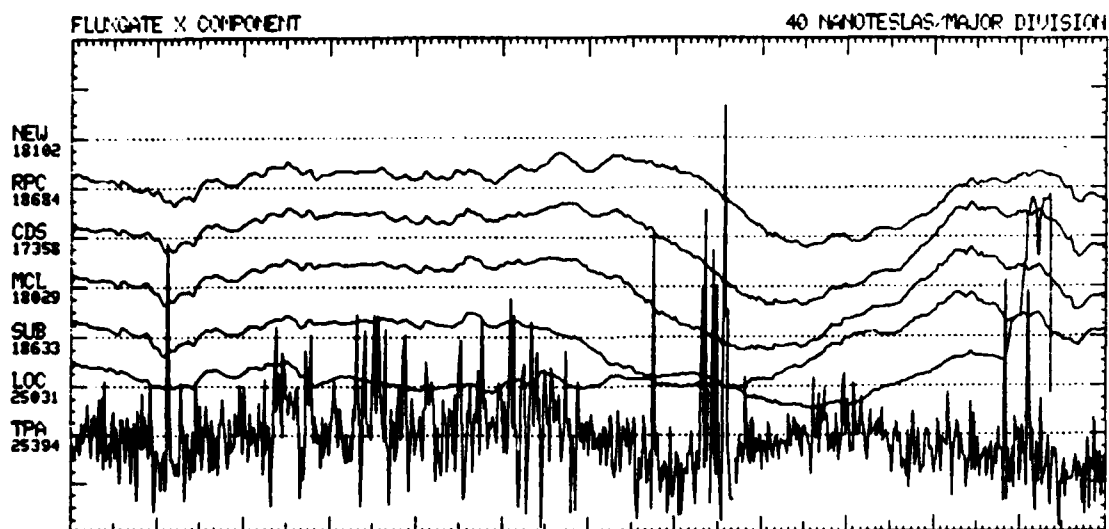


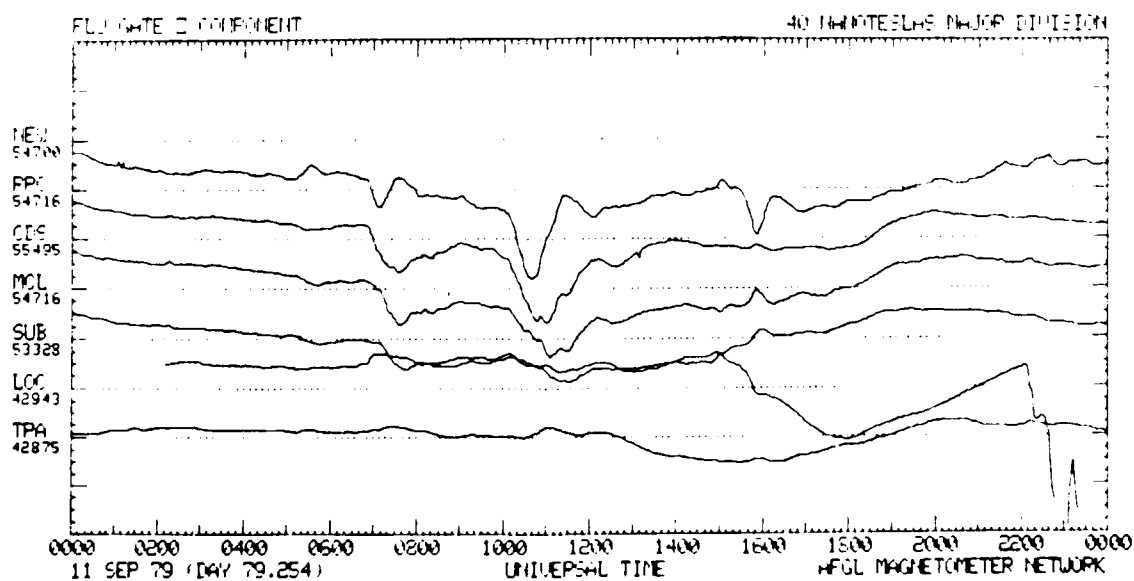
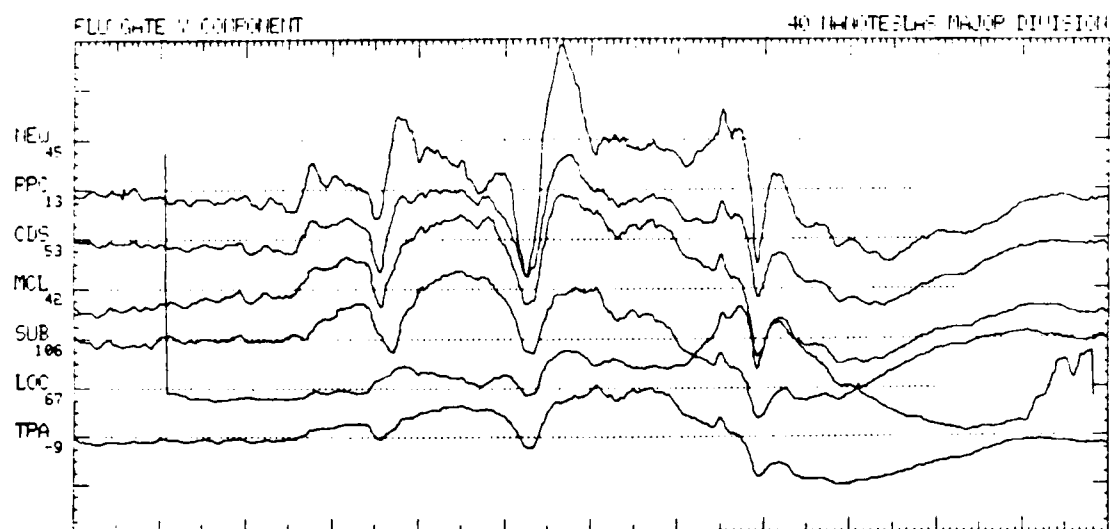
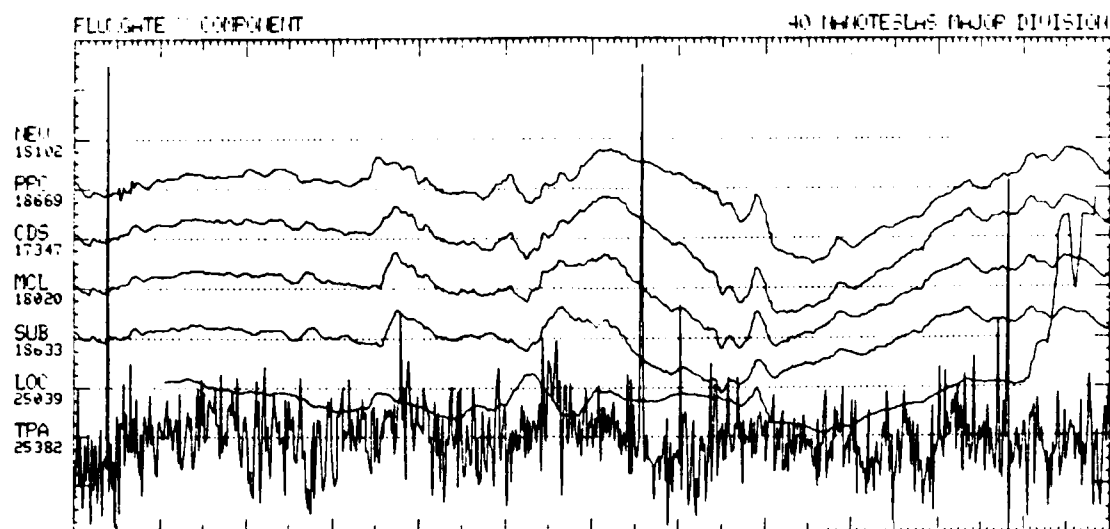


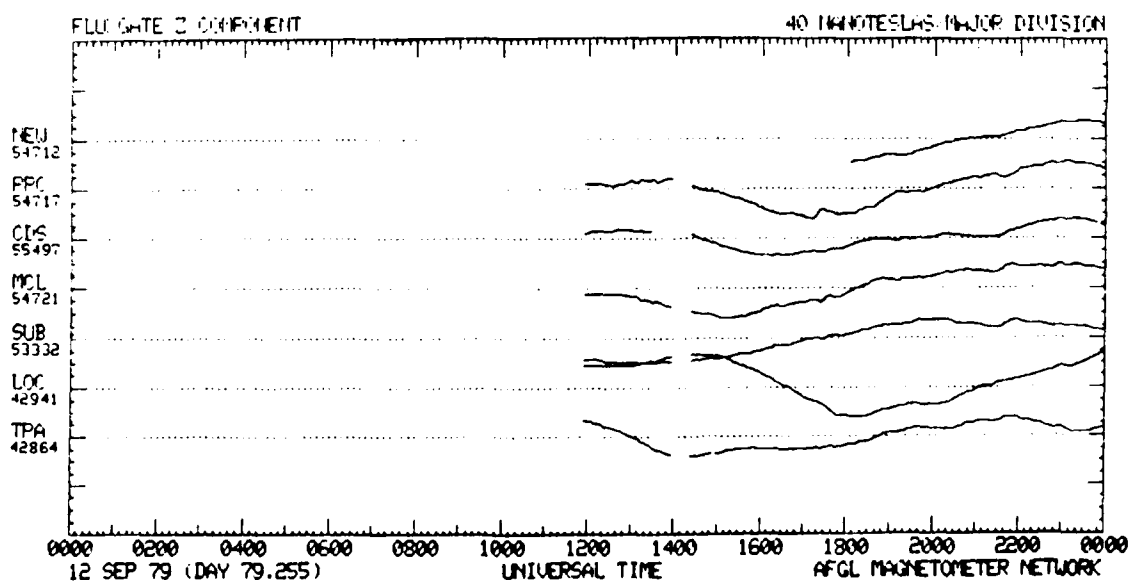
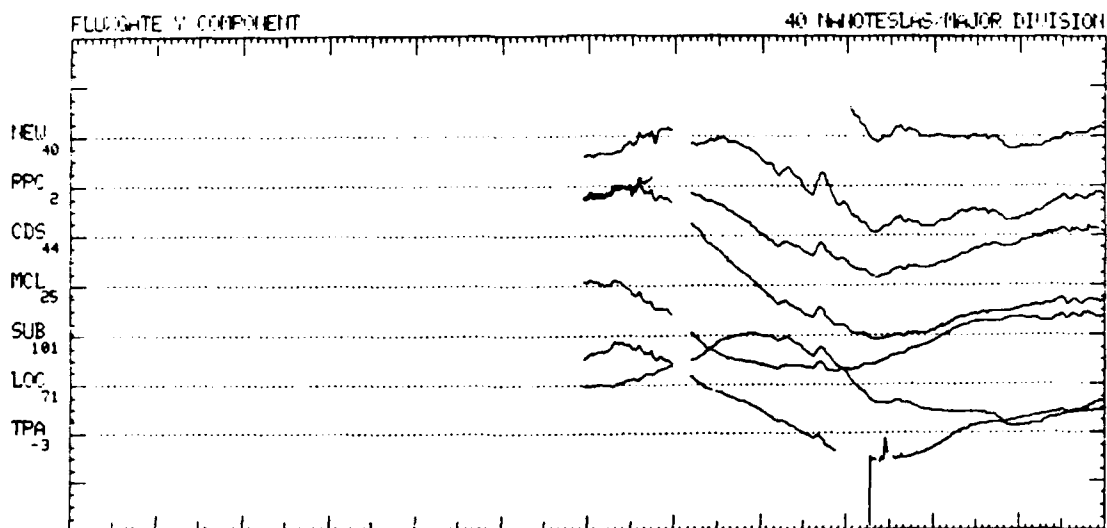
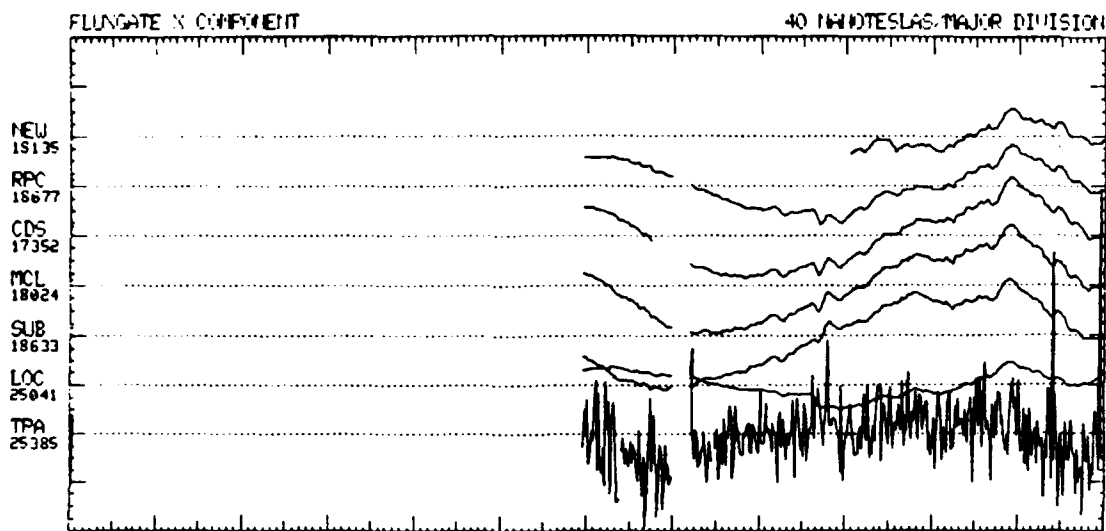


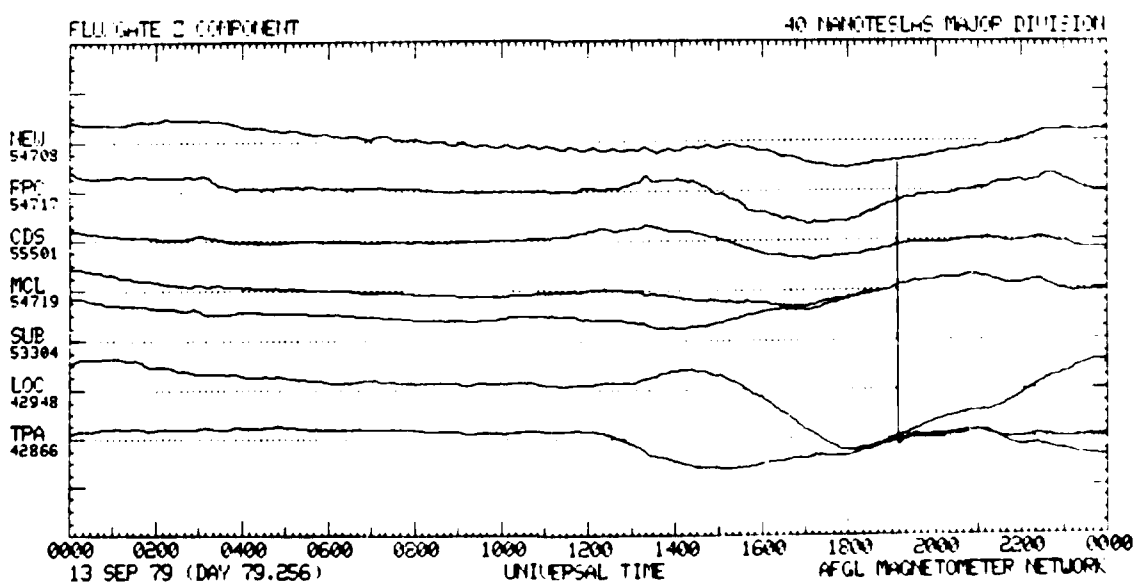
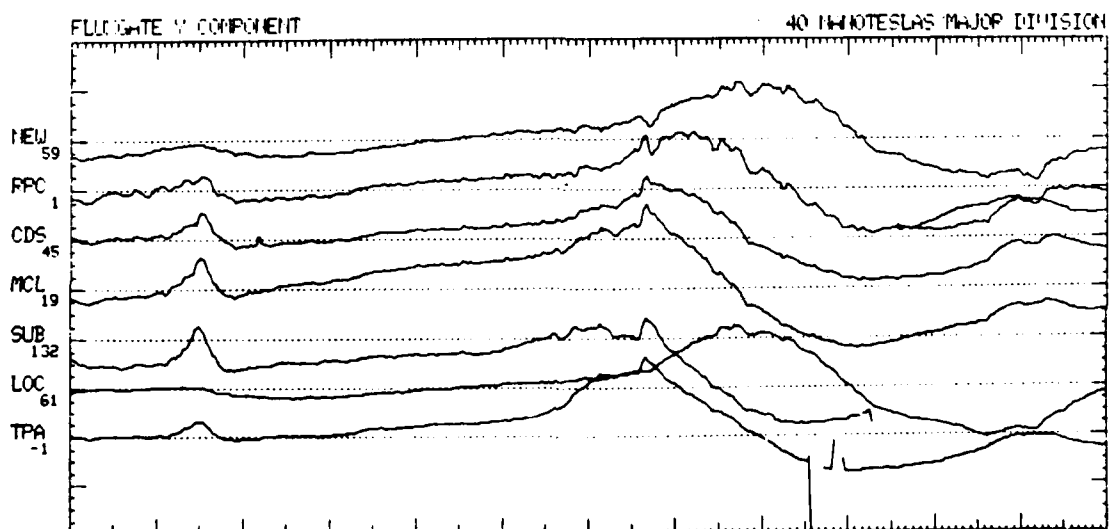
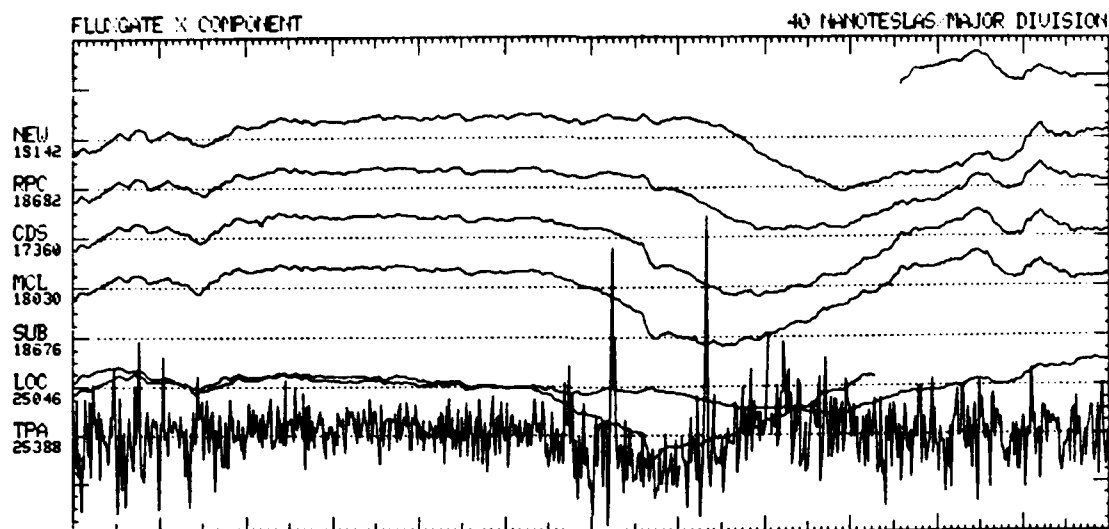


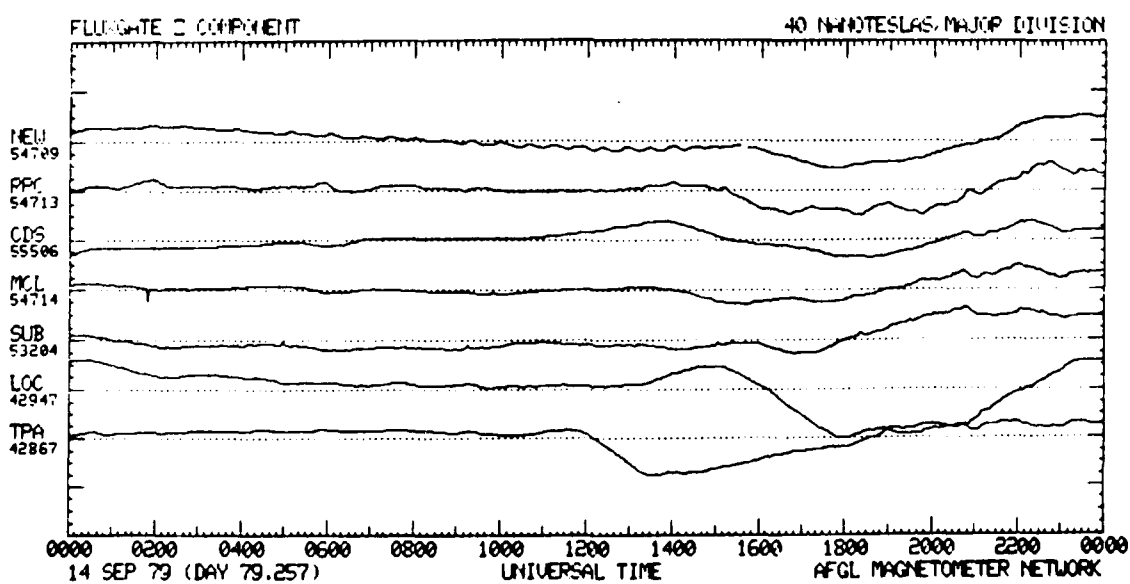
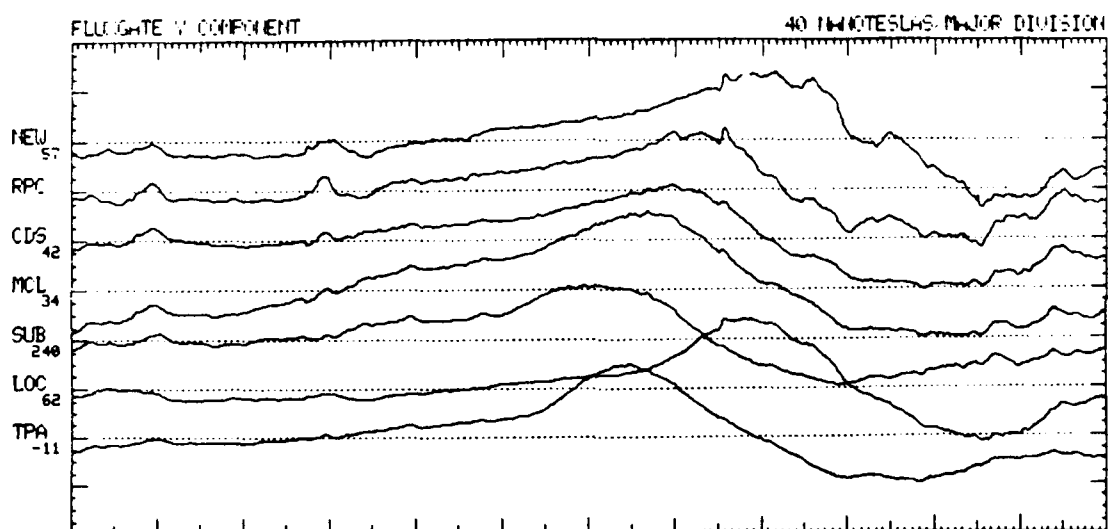
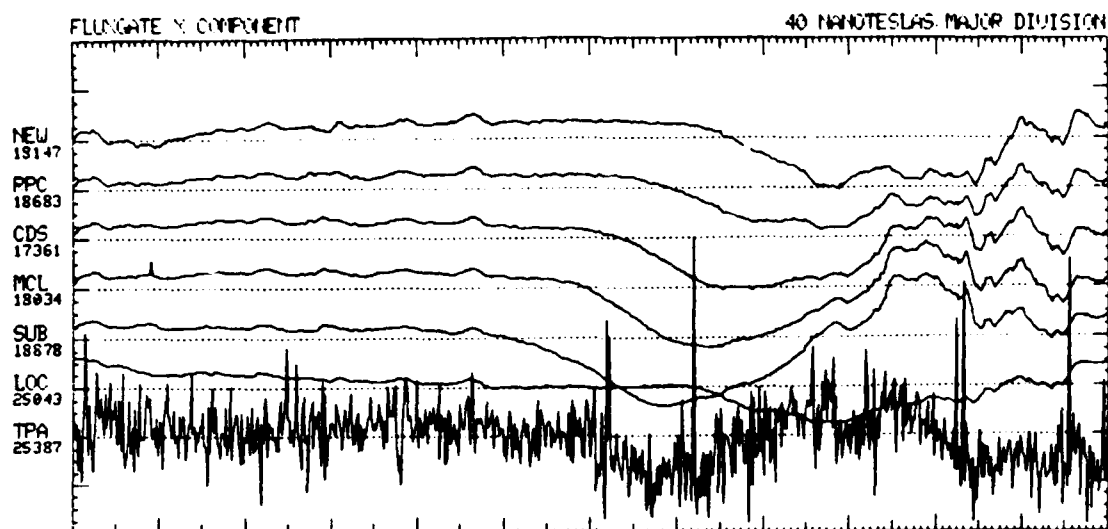


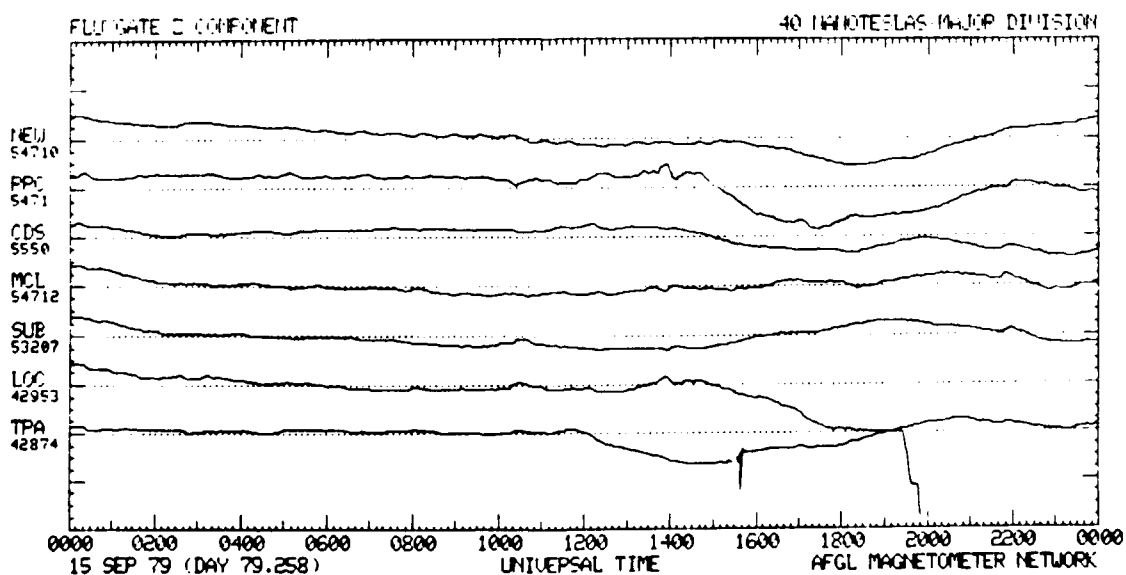
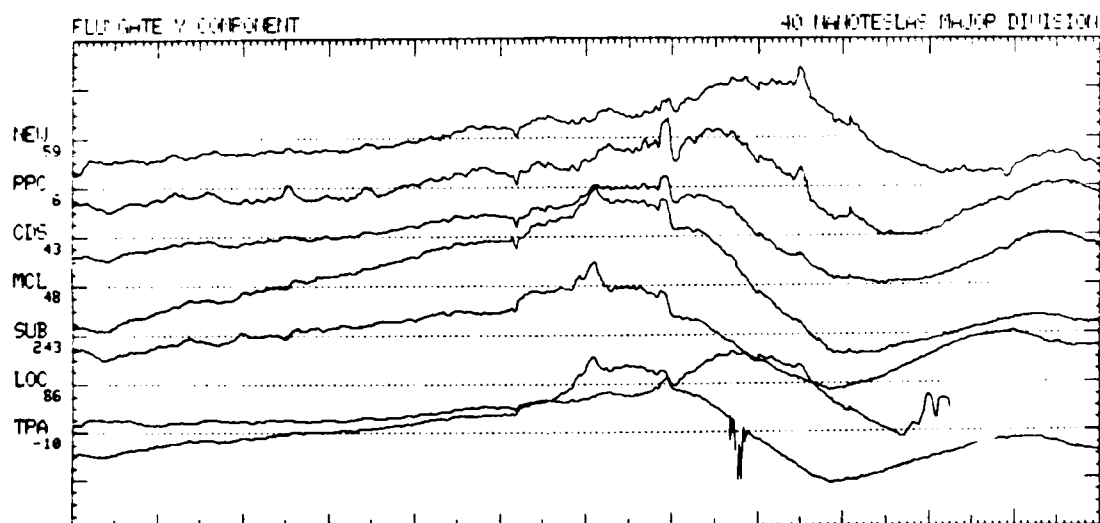
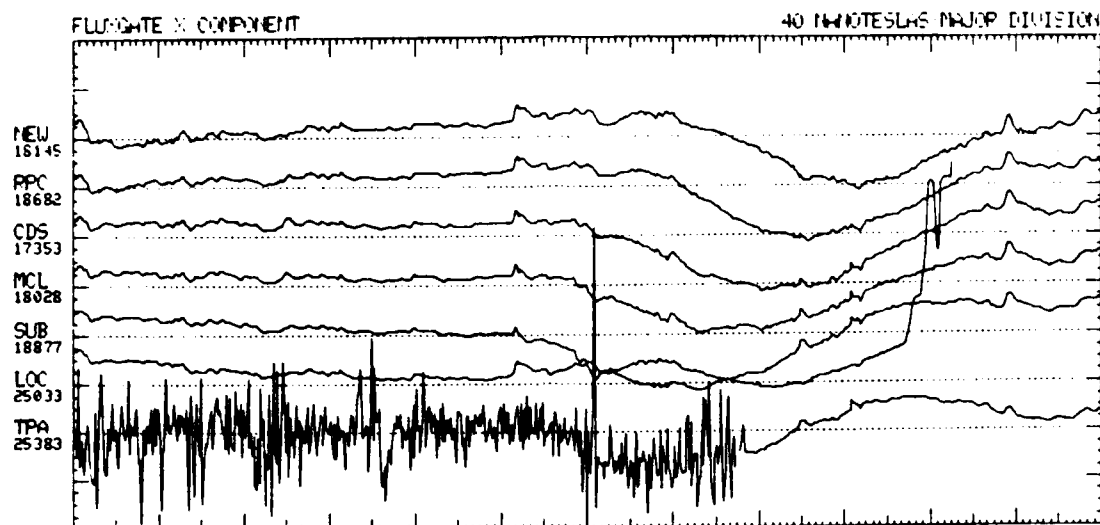


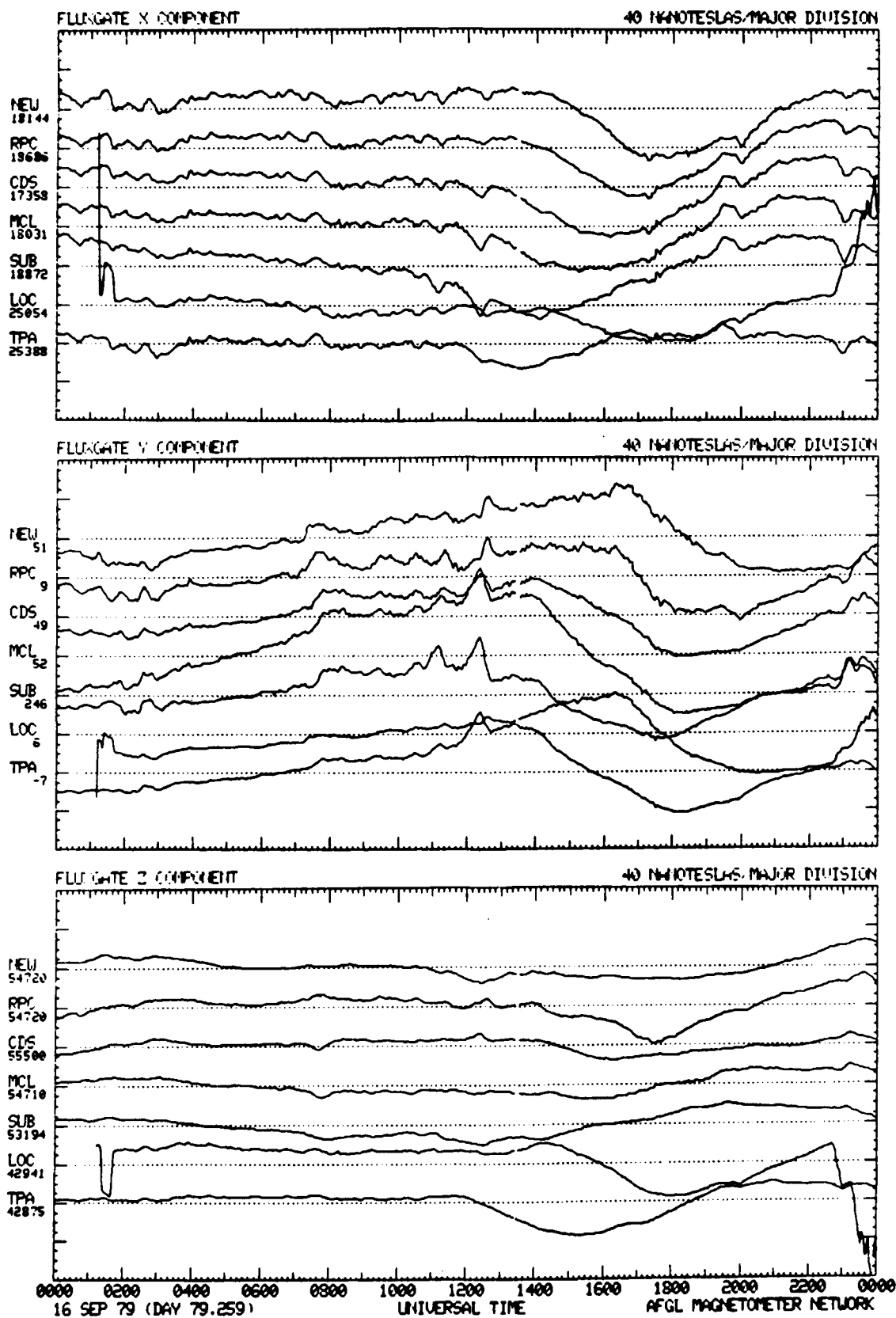


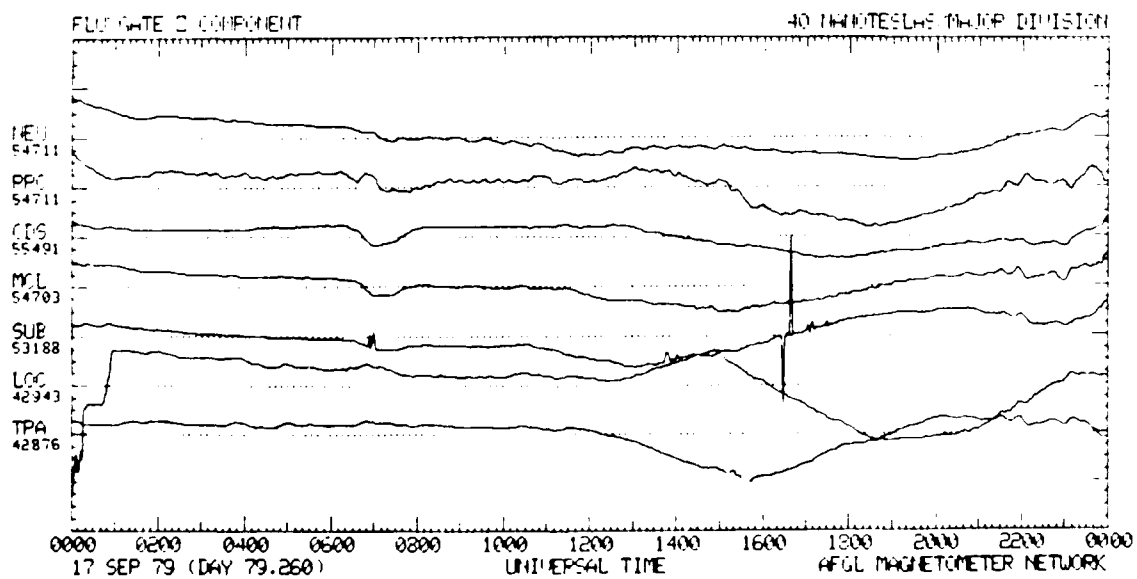
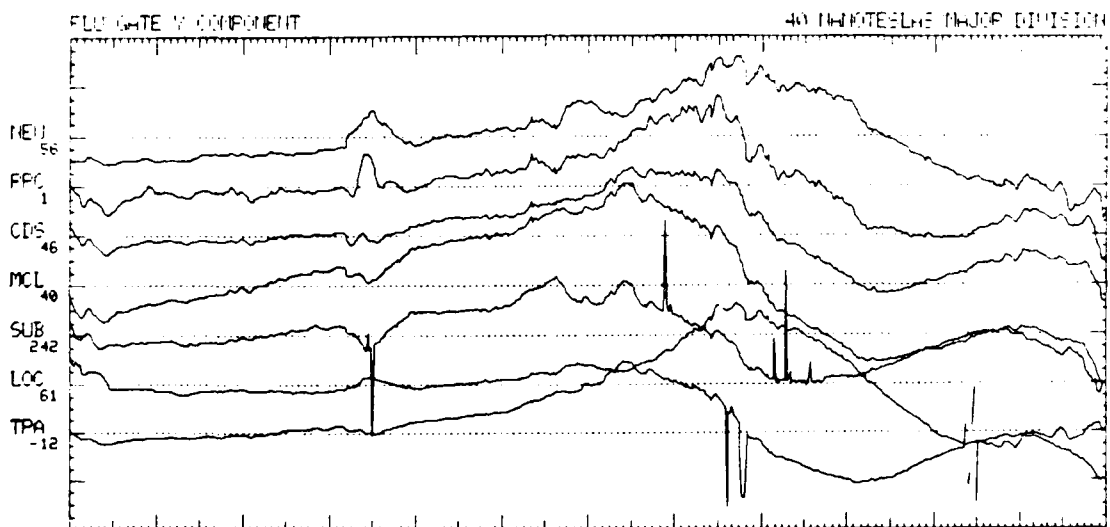
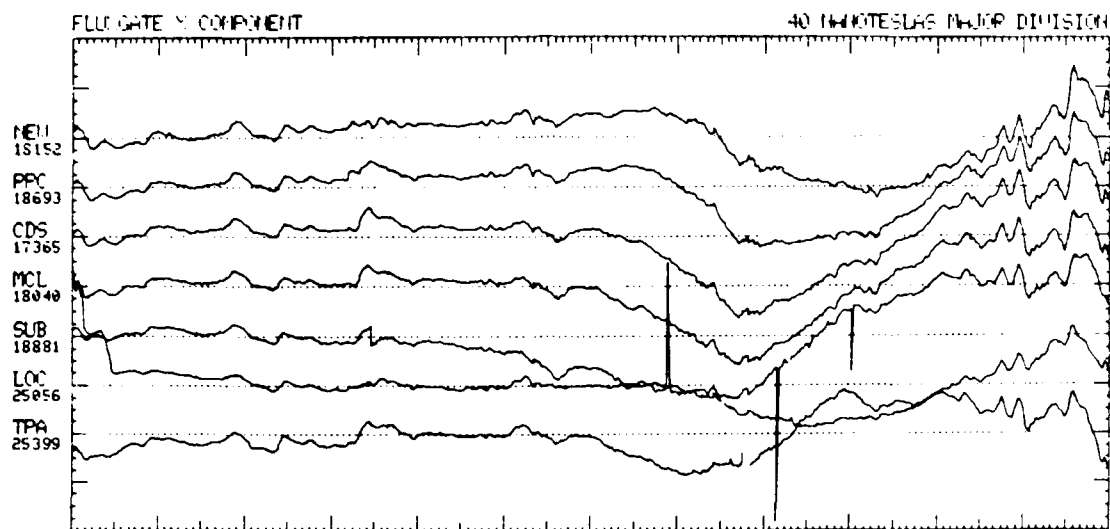


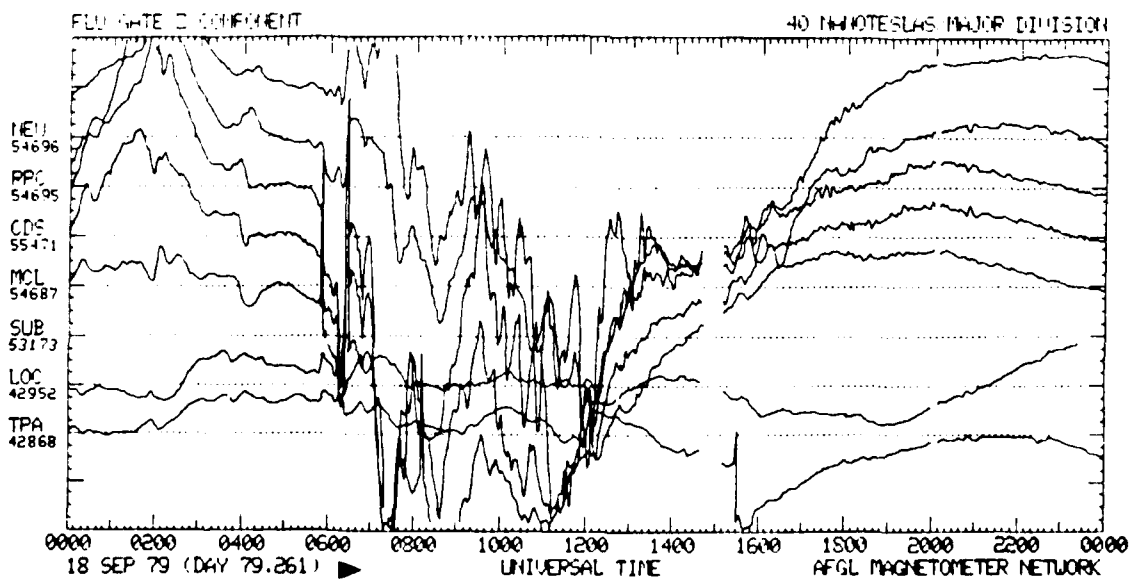
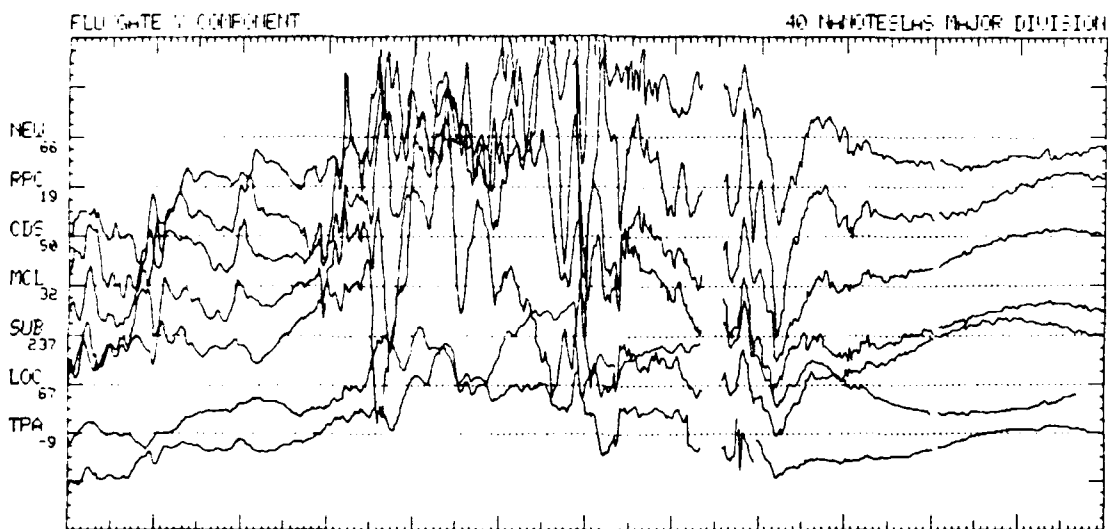
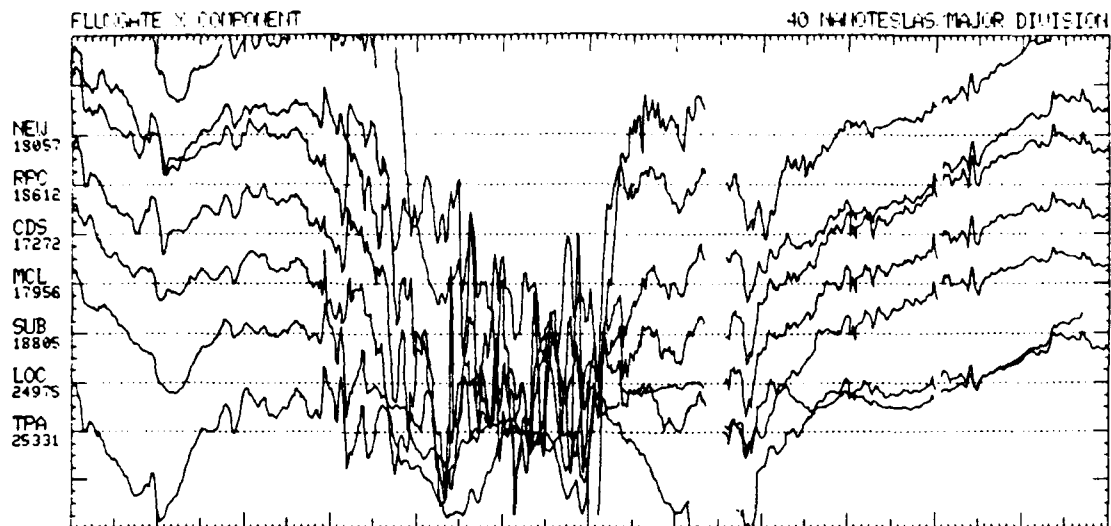


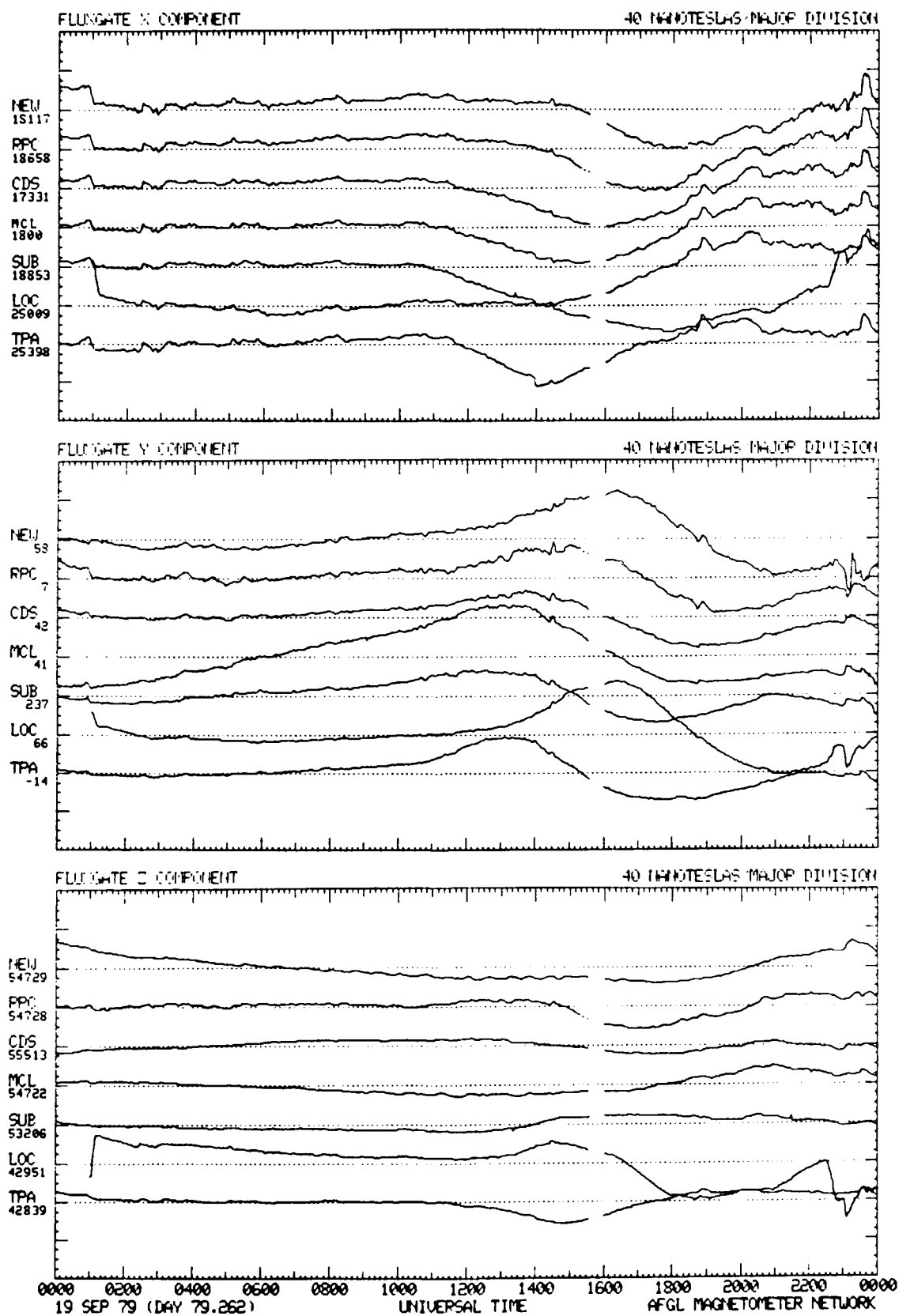


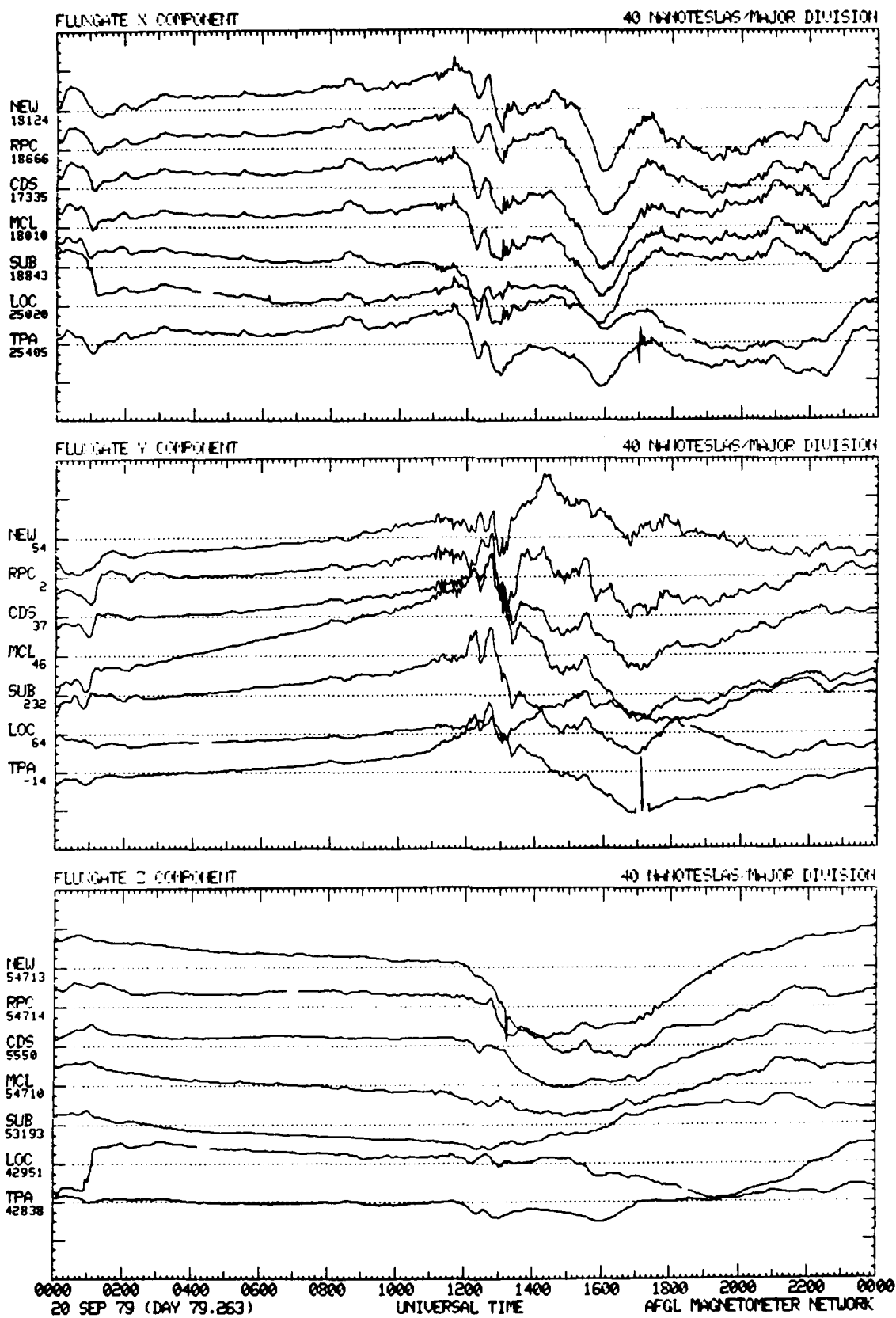


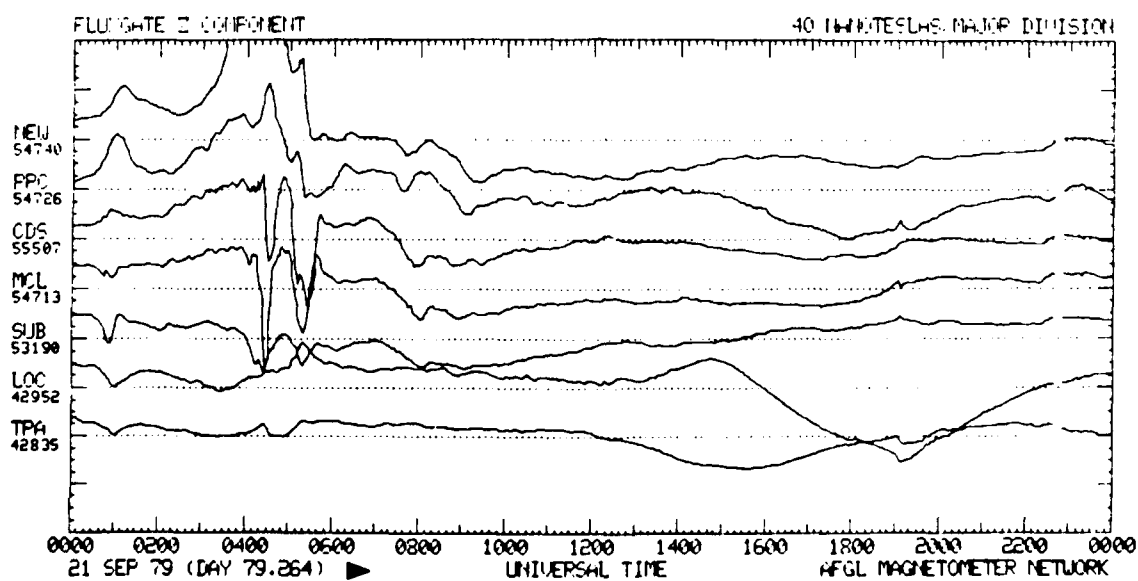
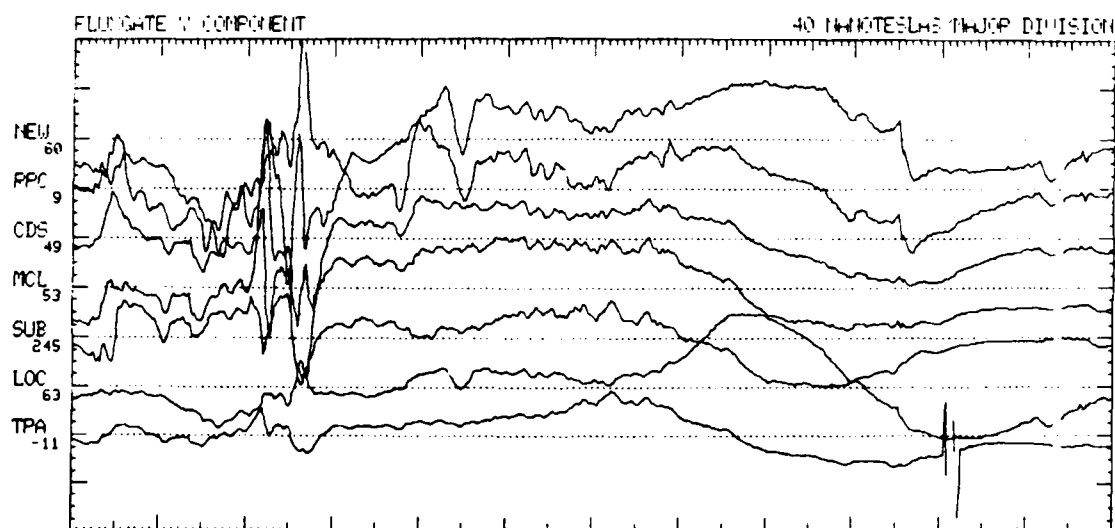
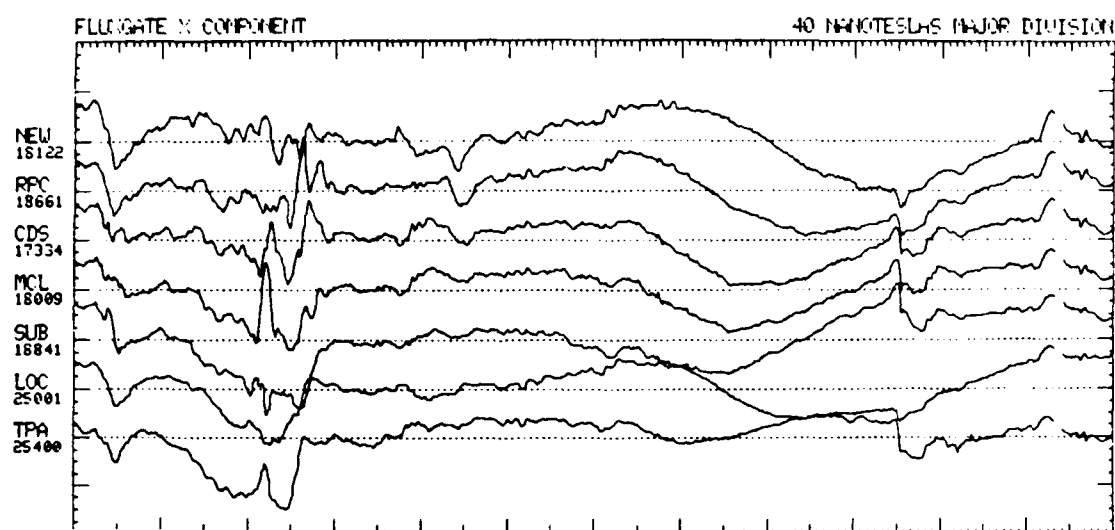


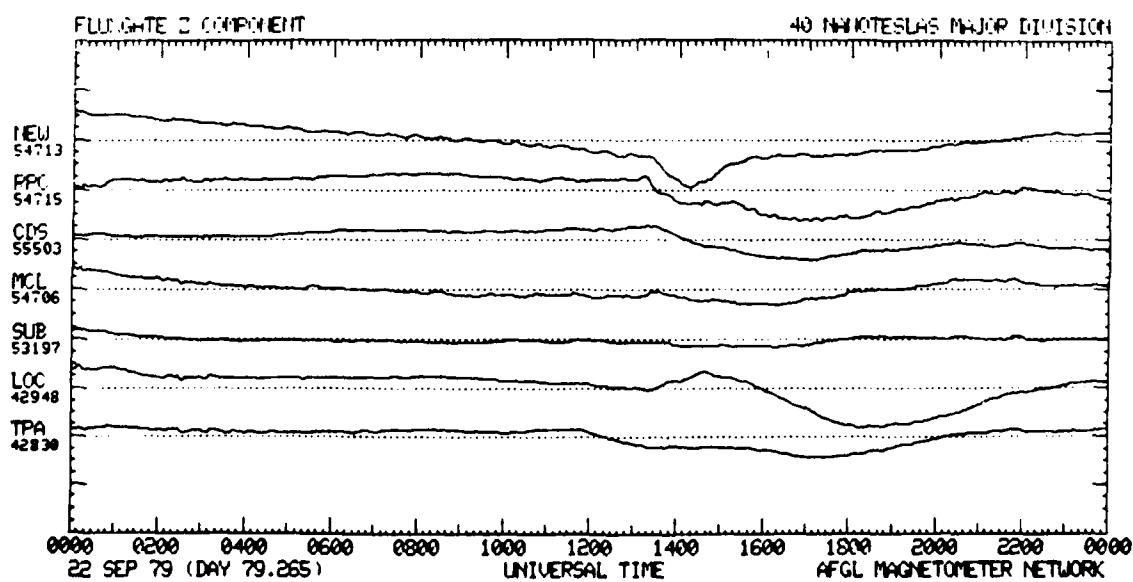
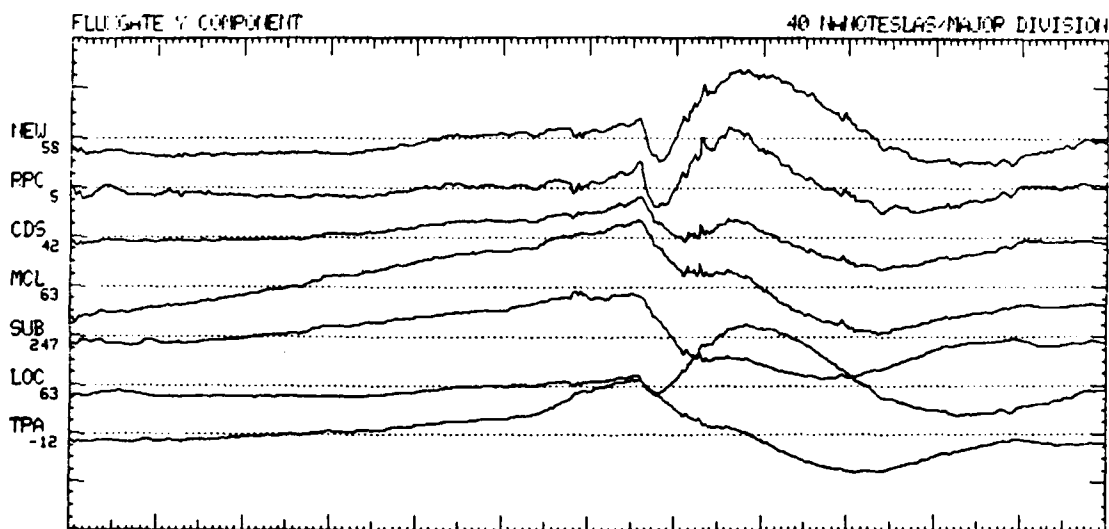
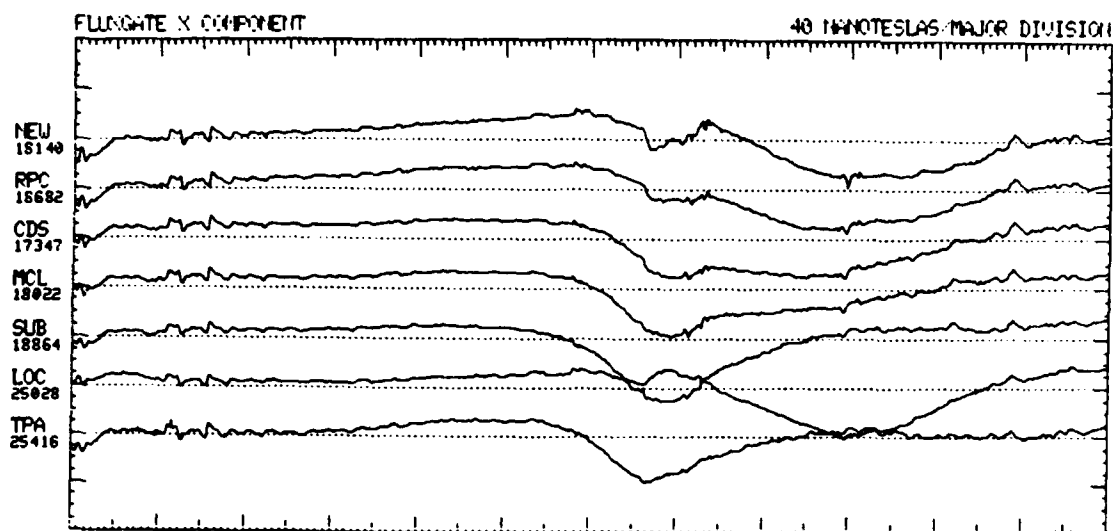


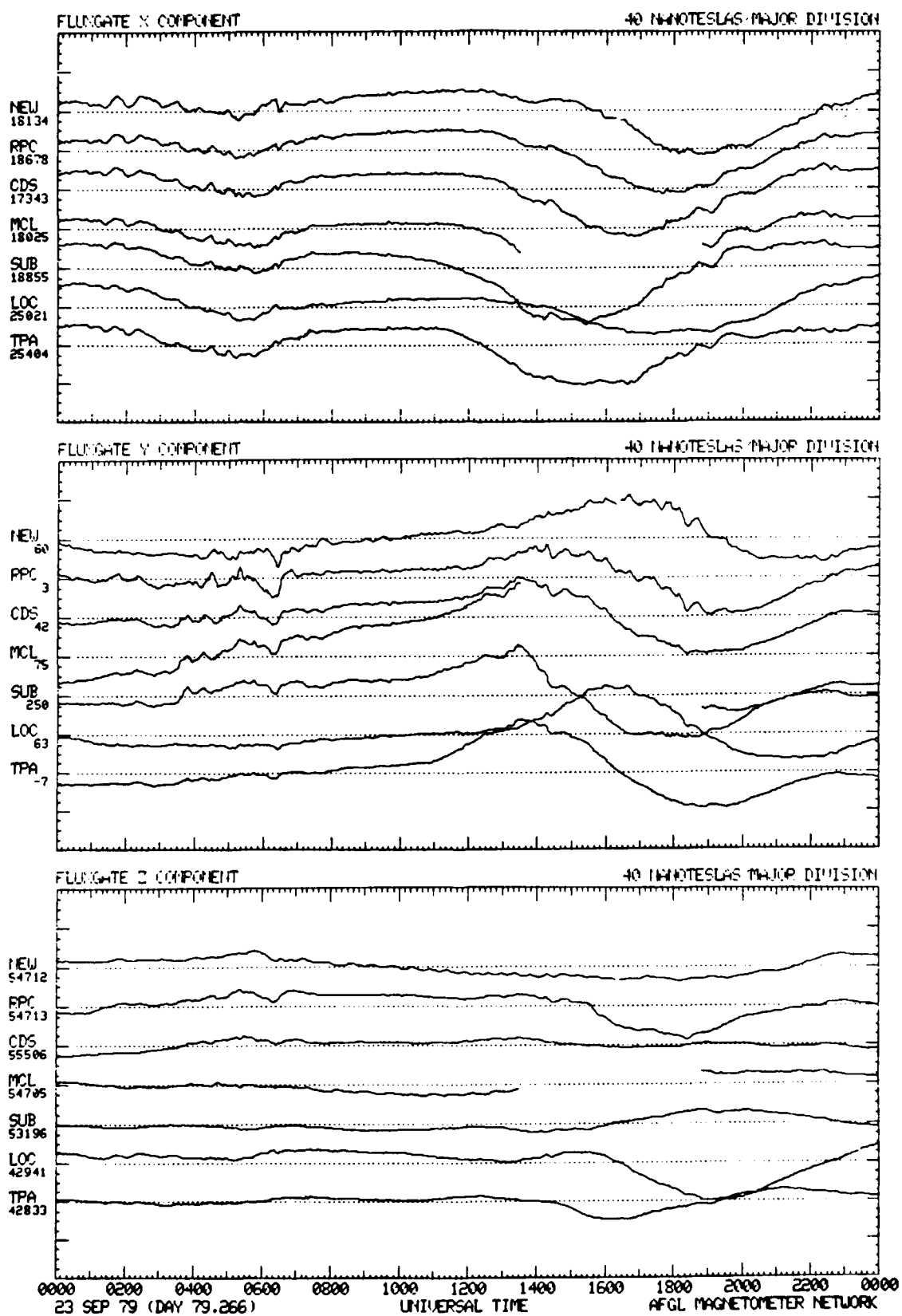


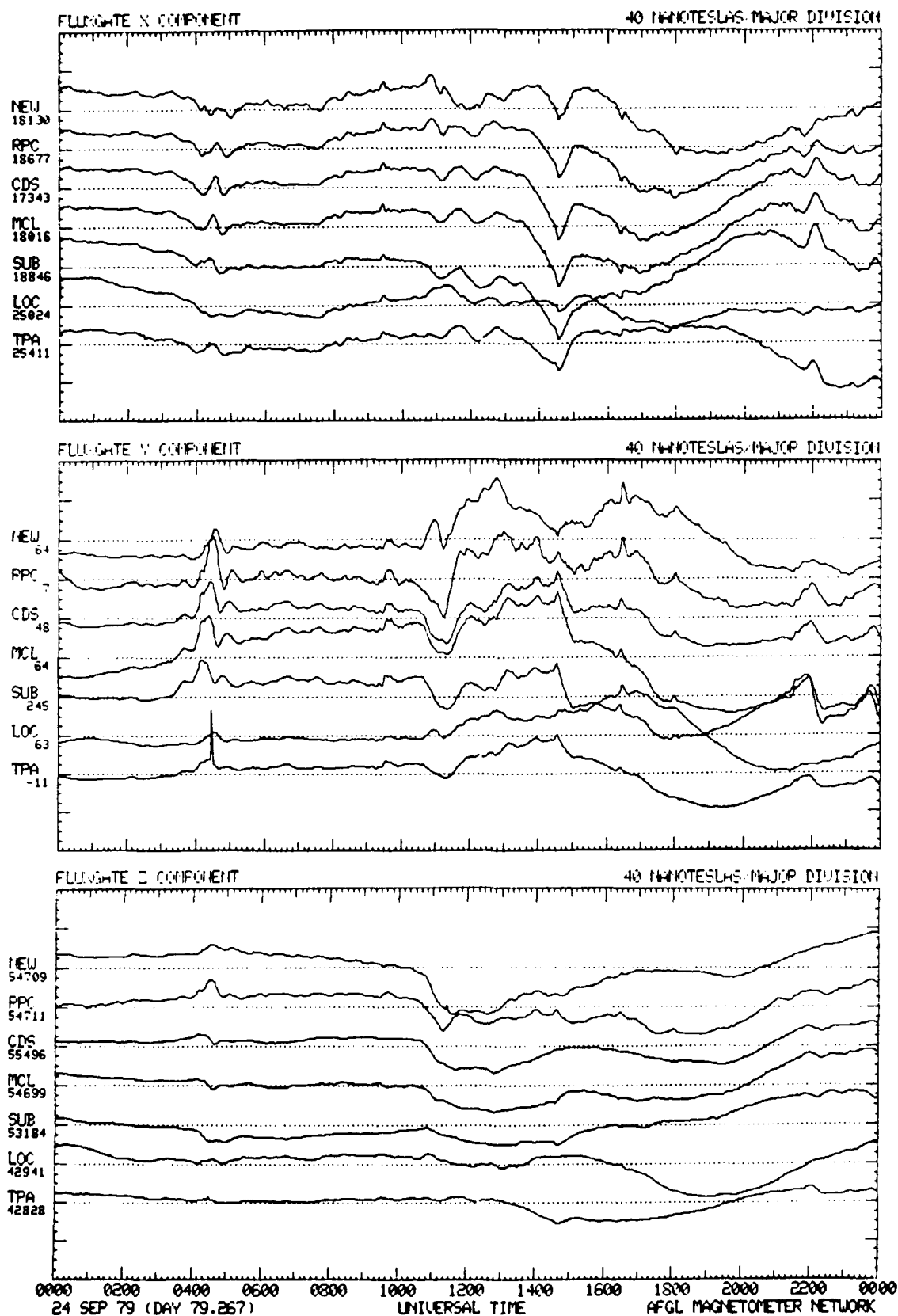


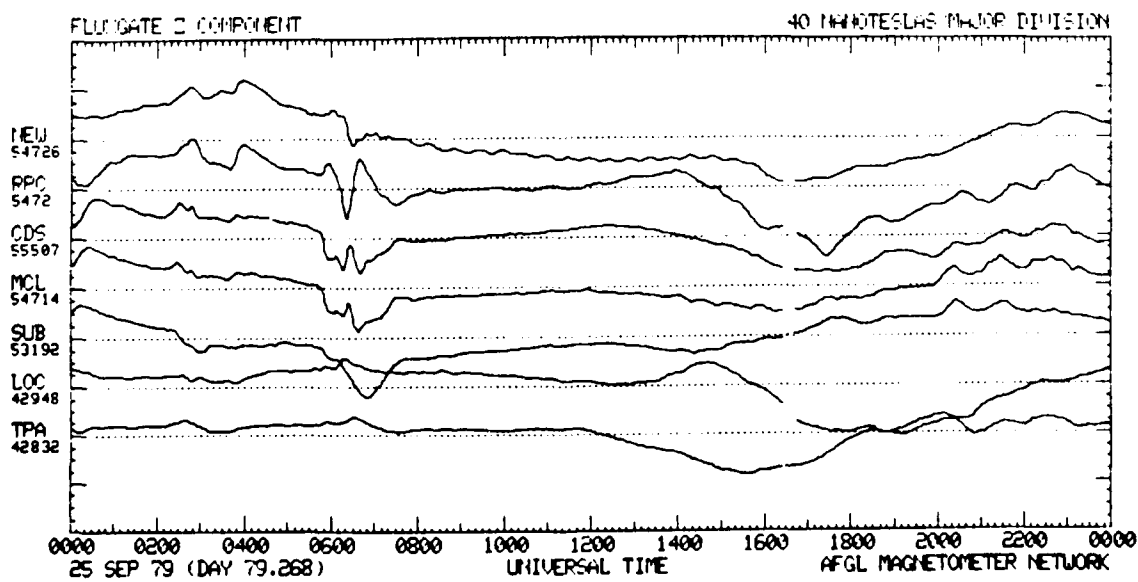
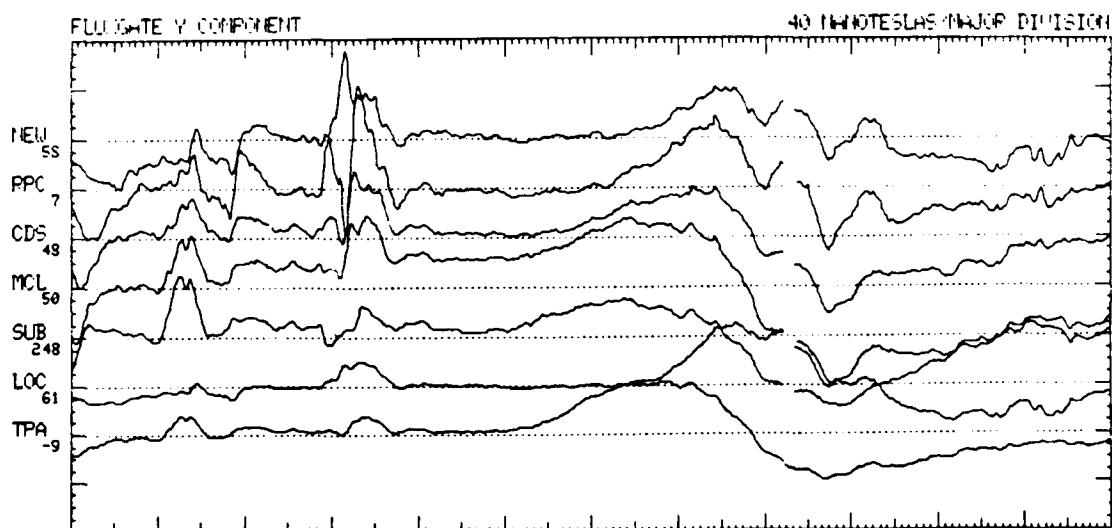
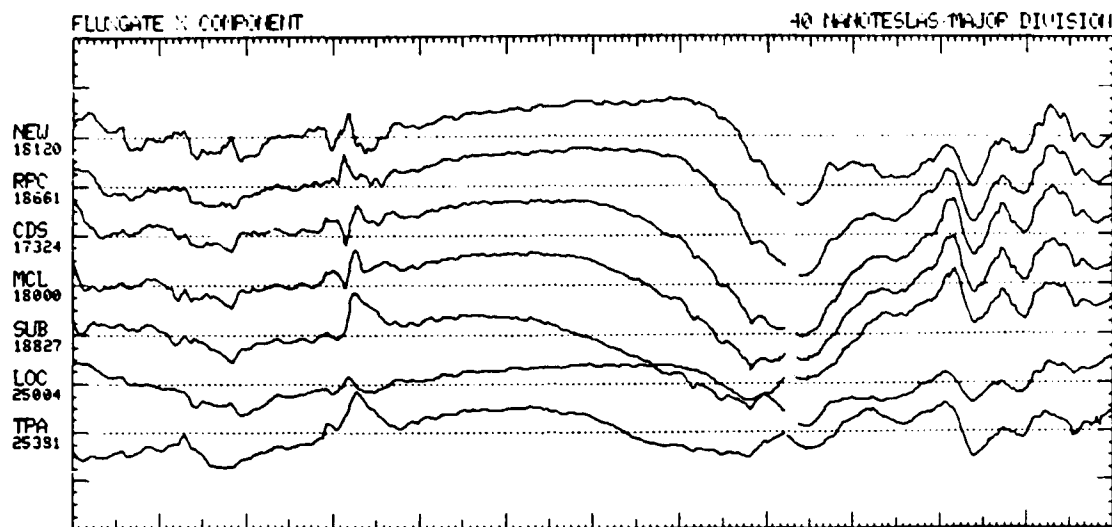


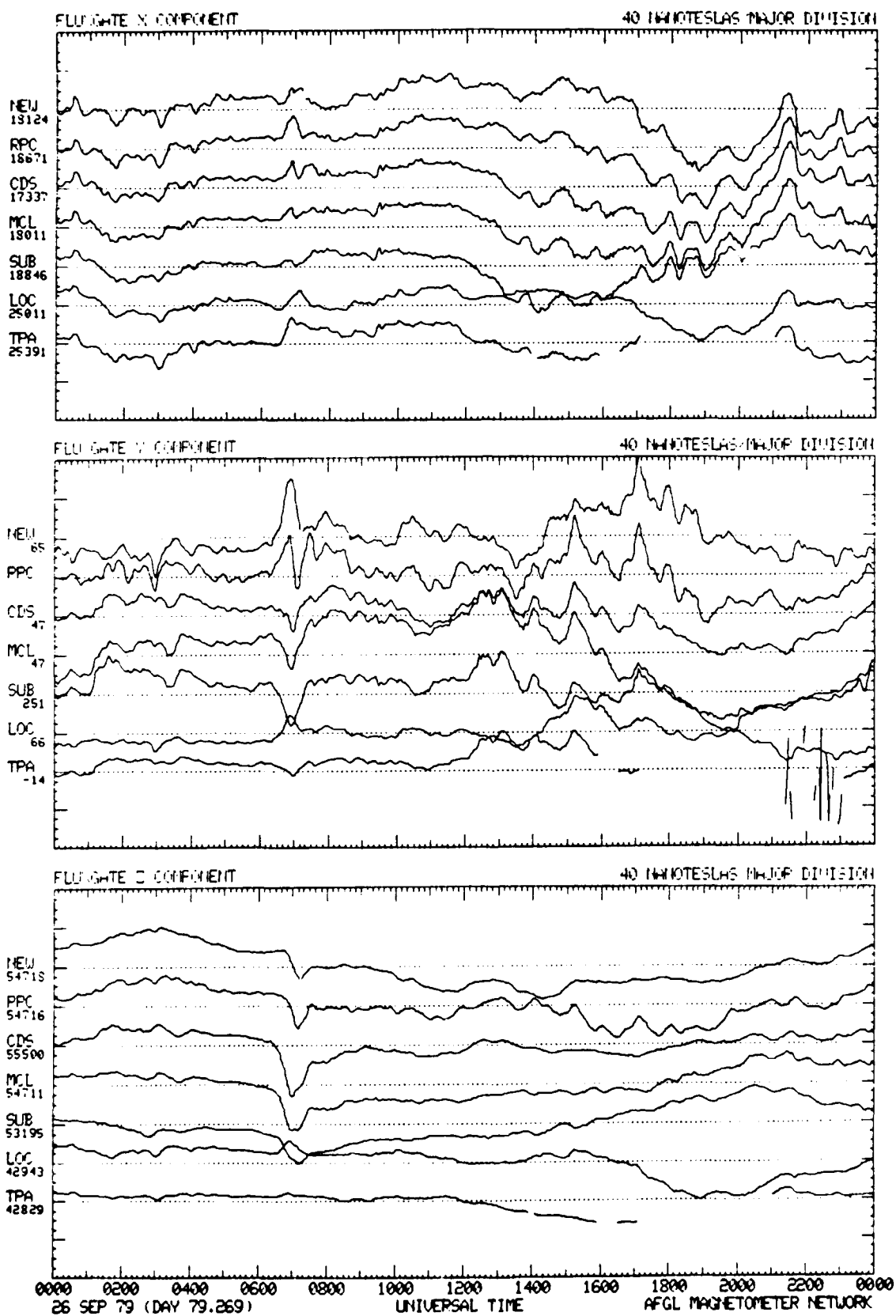


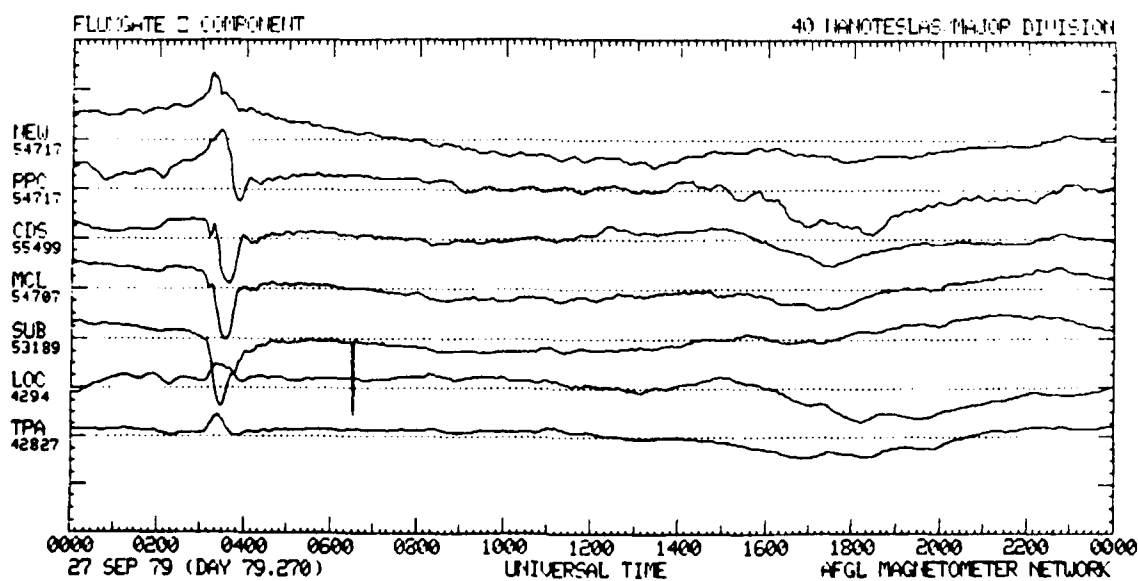
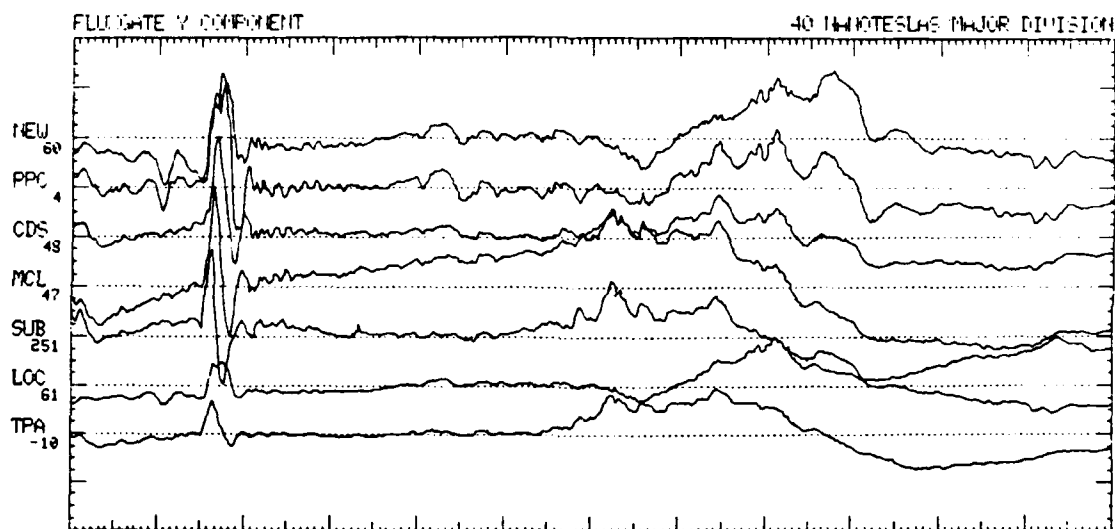
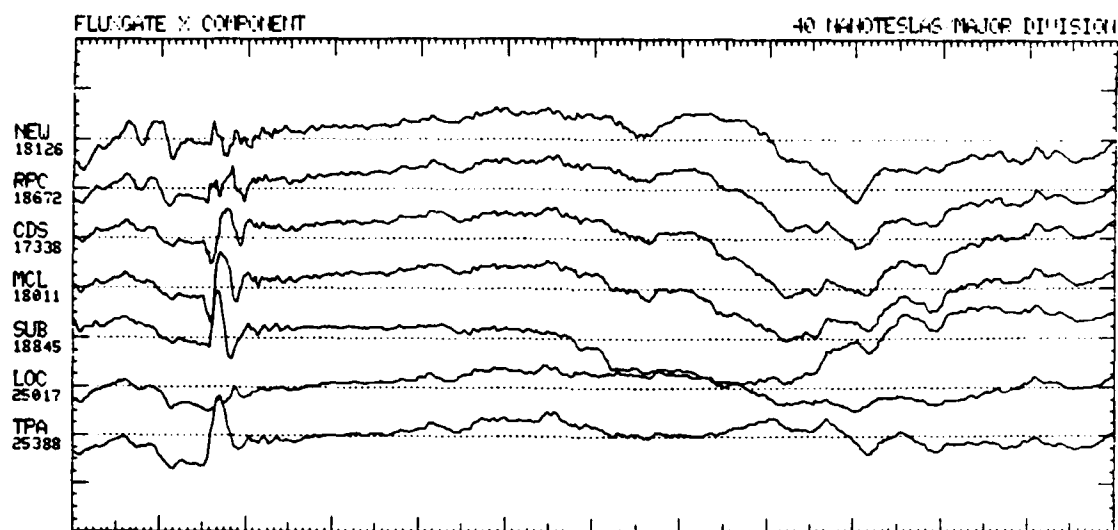


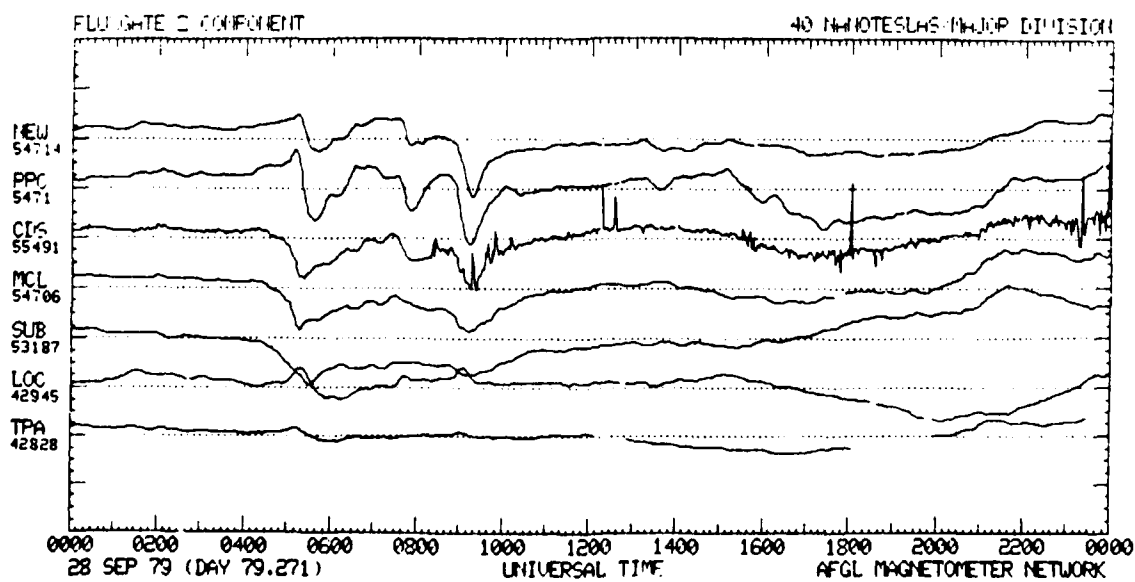
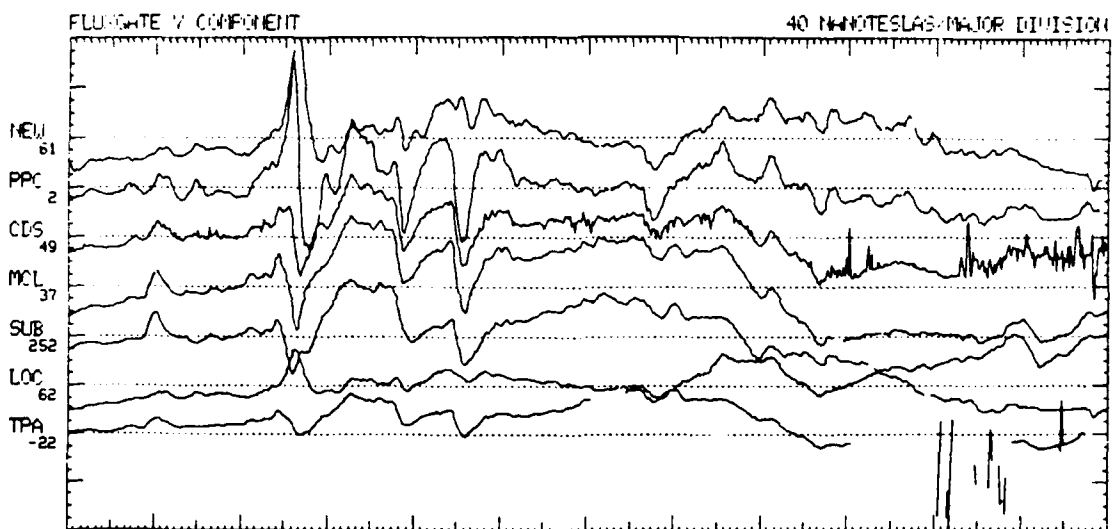
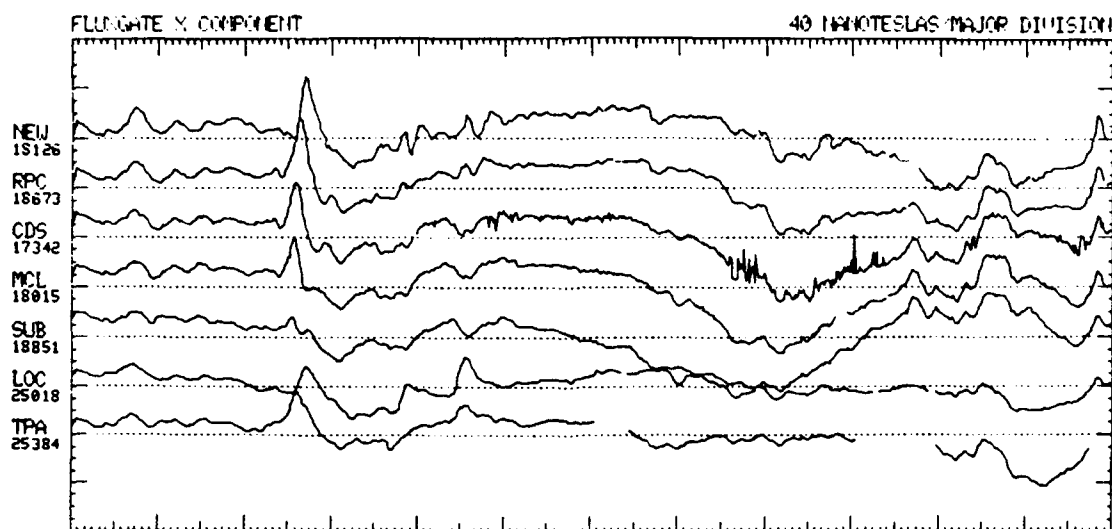


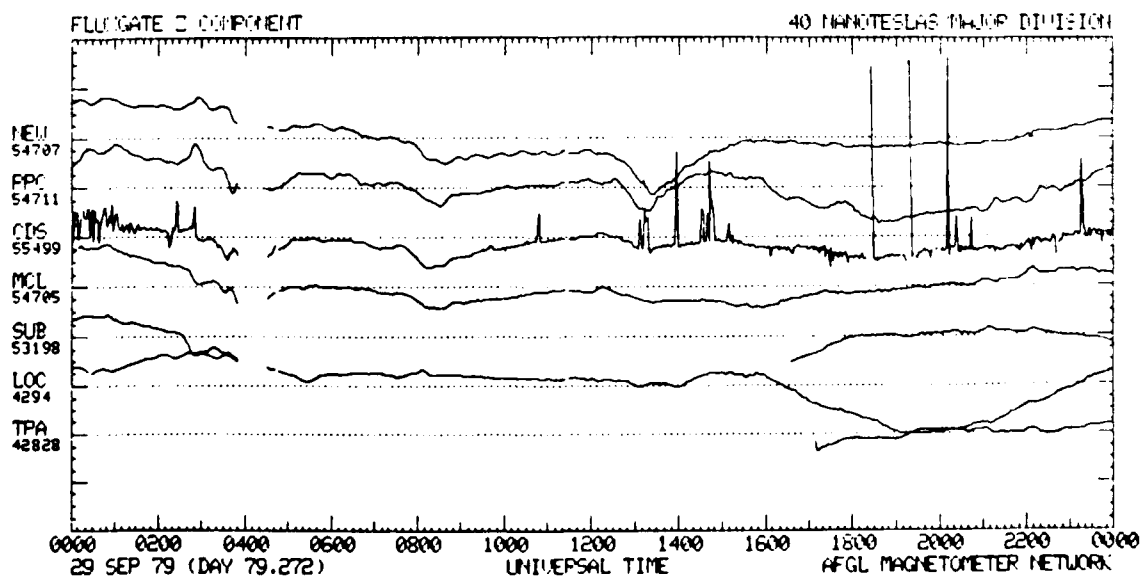
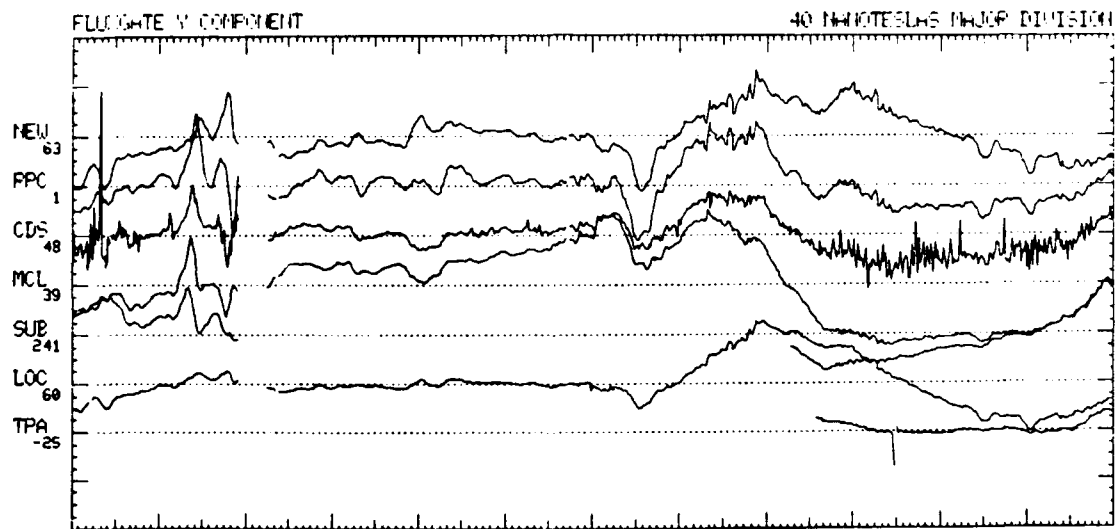
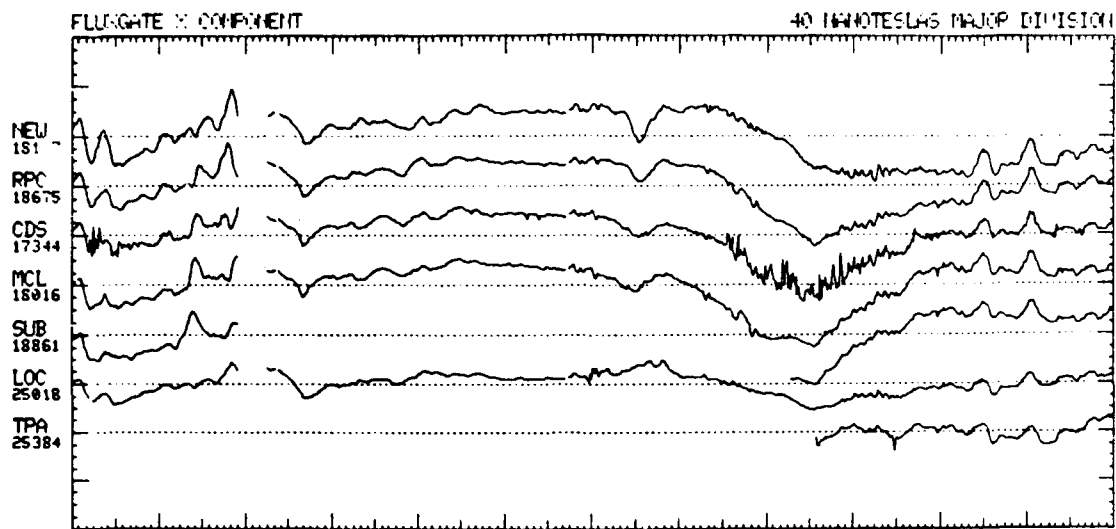


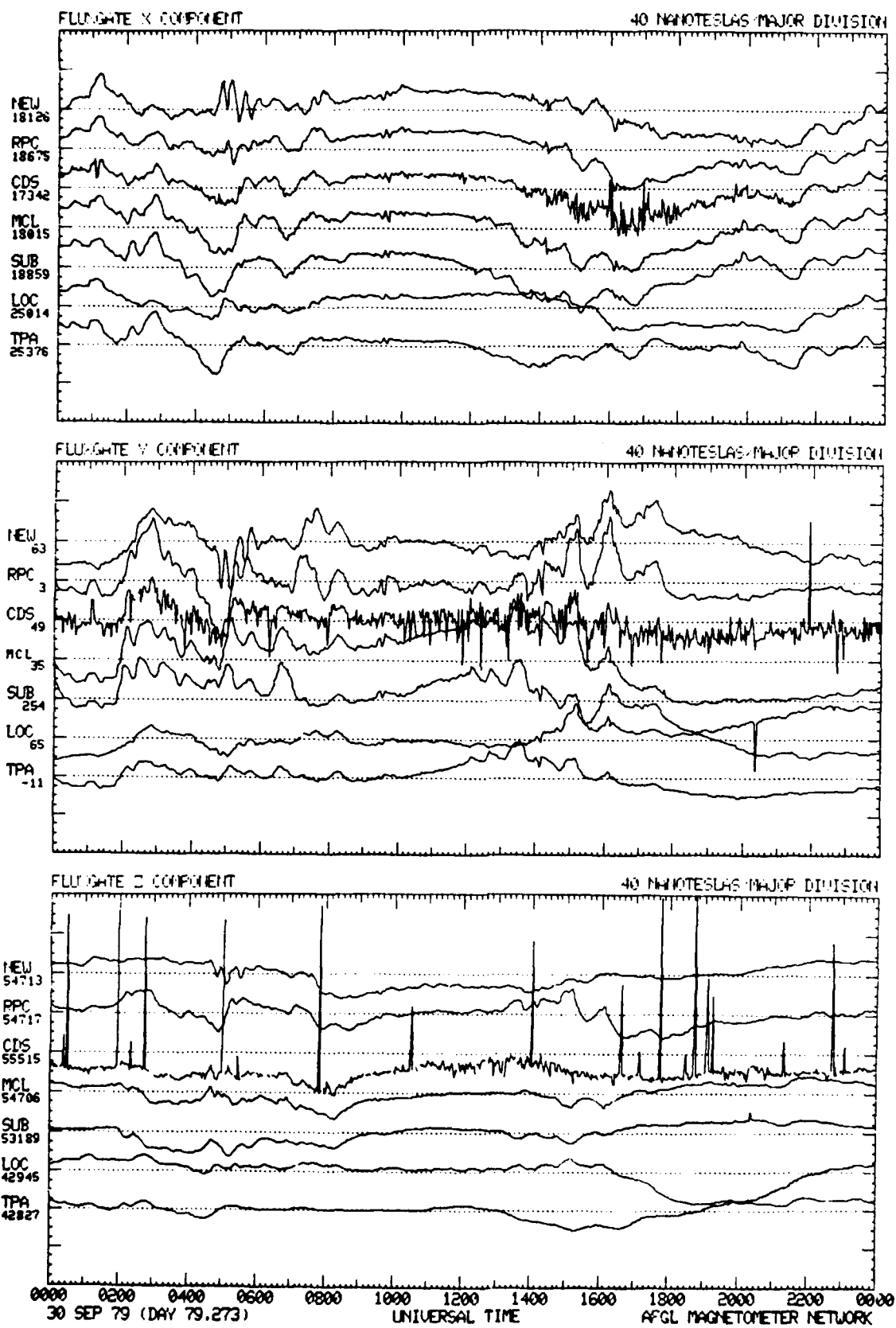


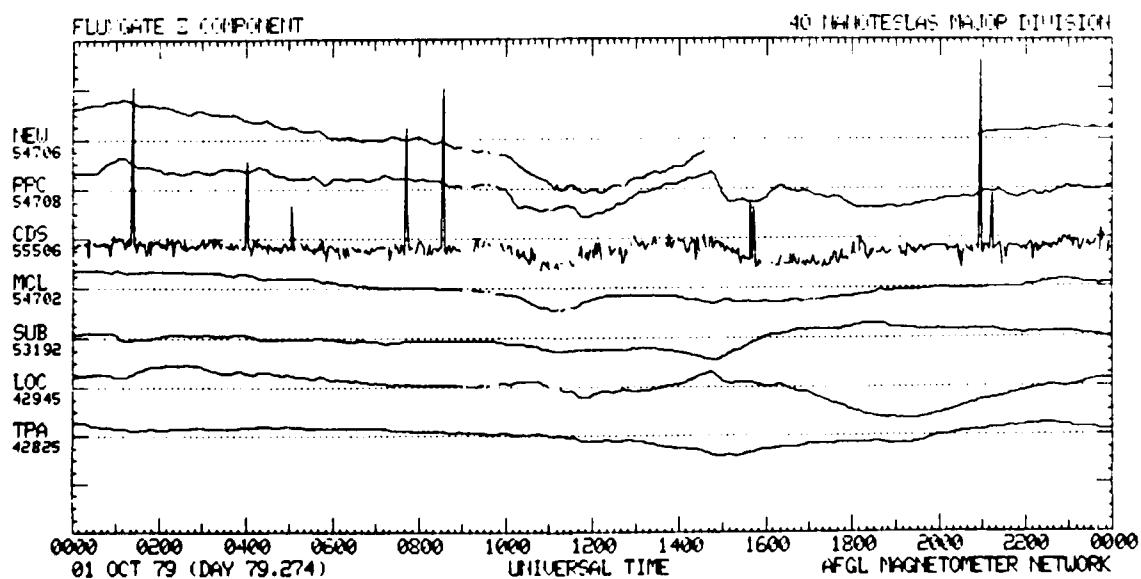
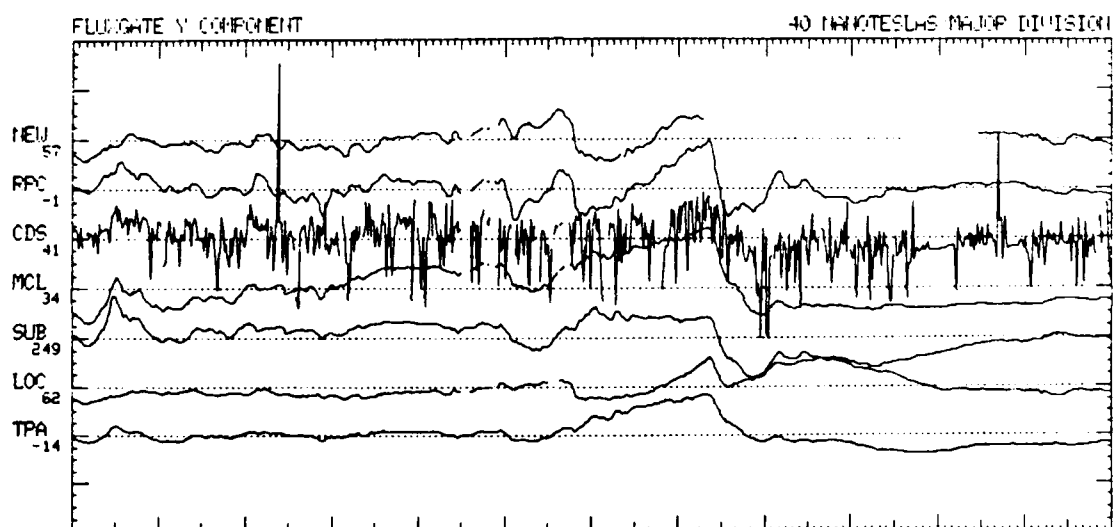
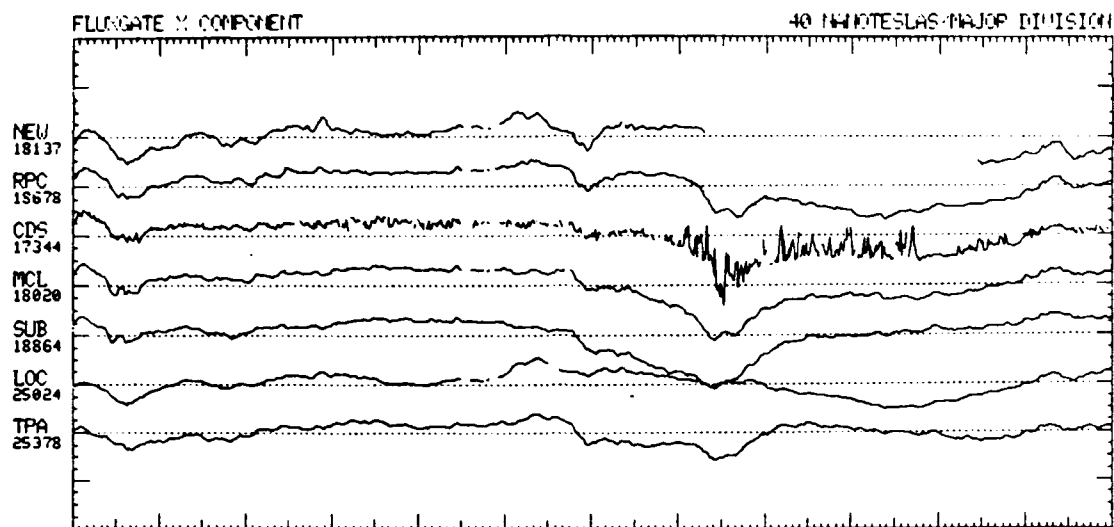


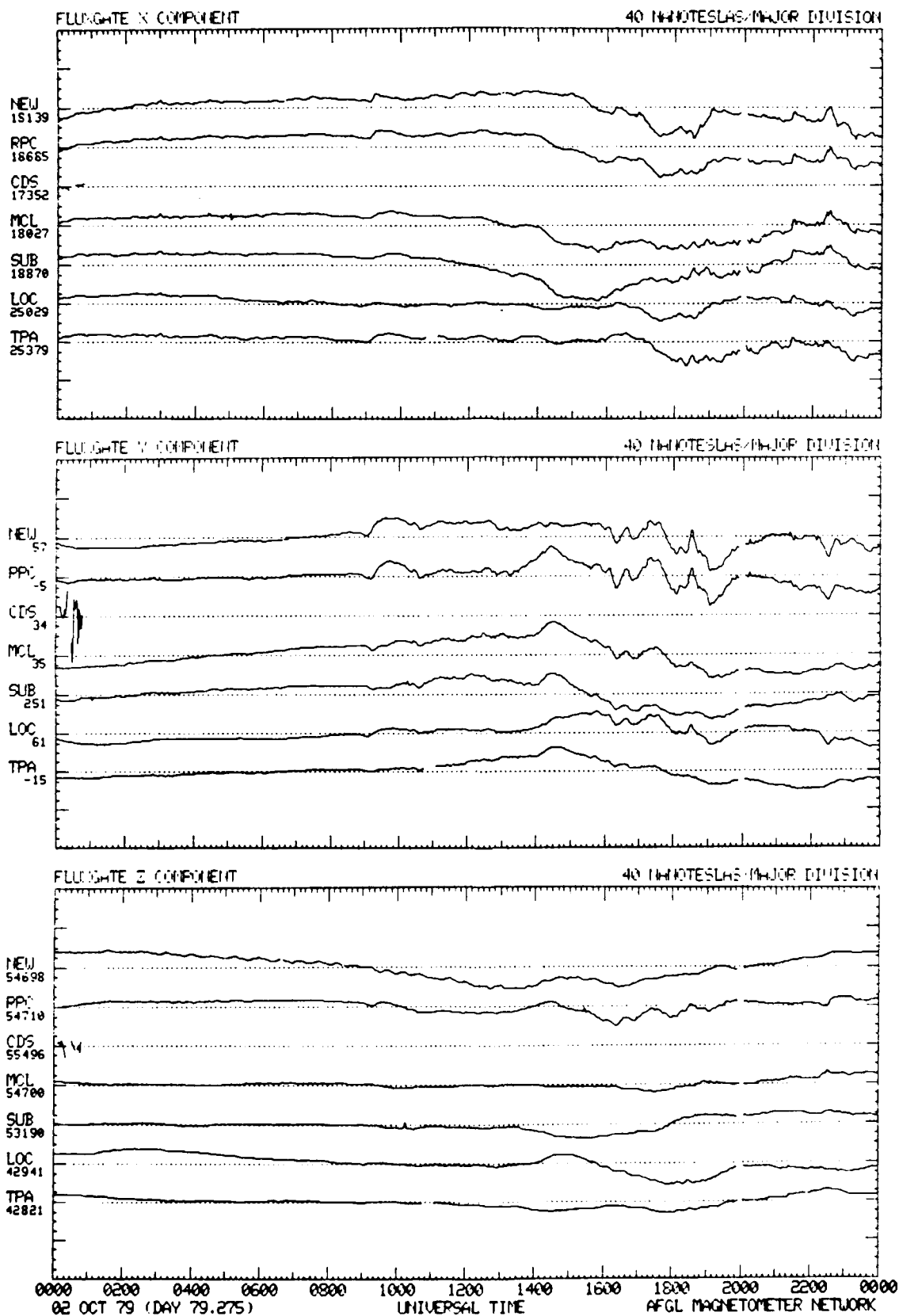












AD-A173 658 DAILY MAGNETOGRAMS FOR 1979 FROM THE AFGL NETWORK(U)
AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA D J KNECHT
22 FEB 85 AFGL-TR-85-0028

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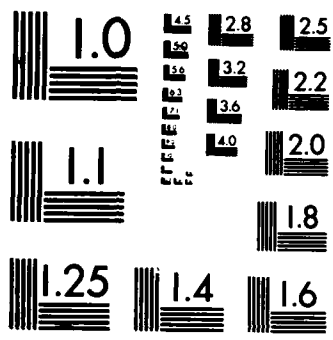
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UNCLASSIFIED

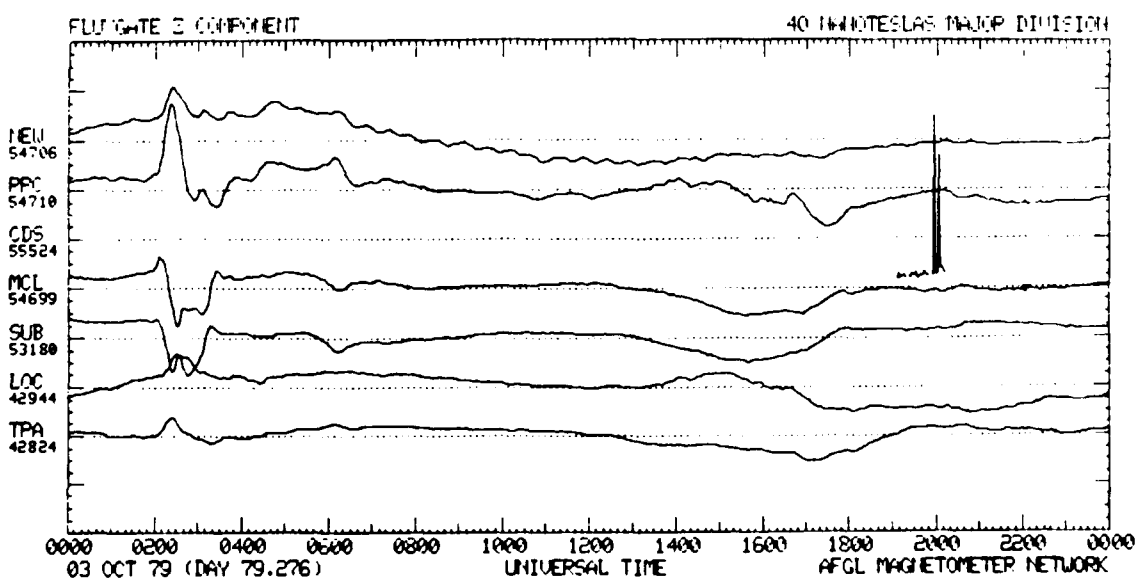
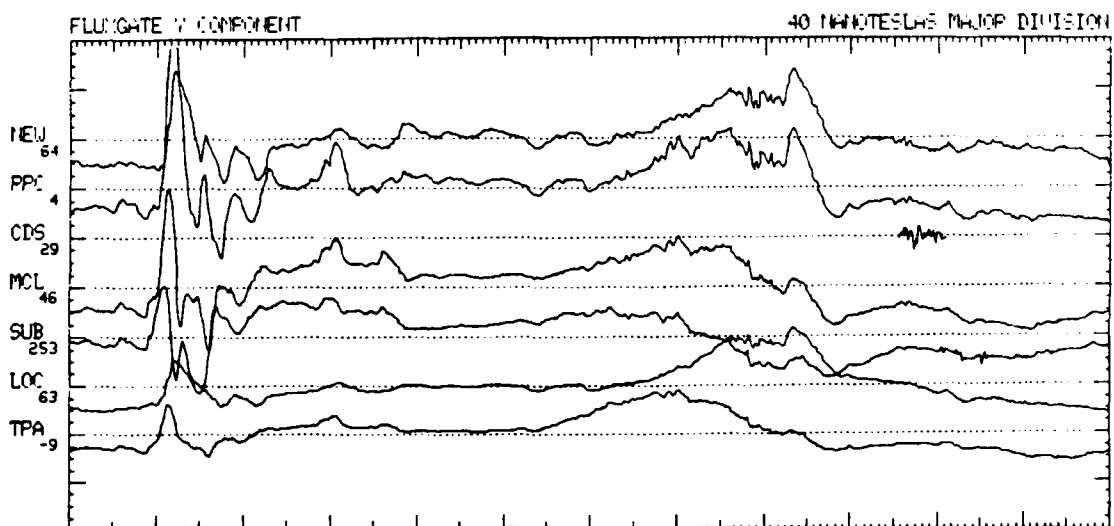
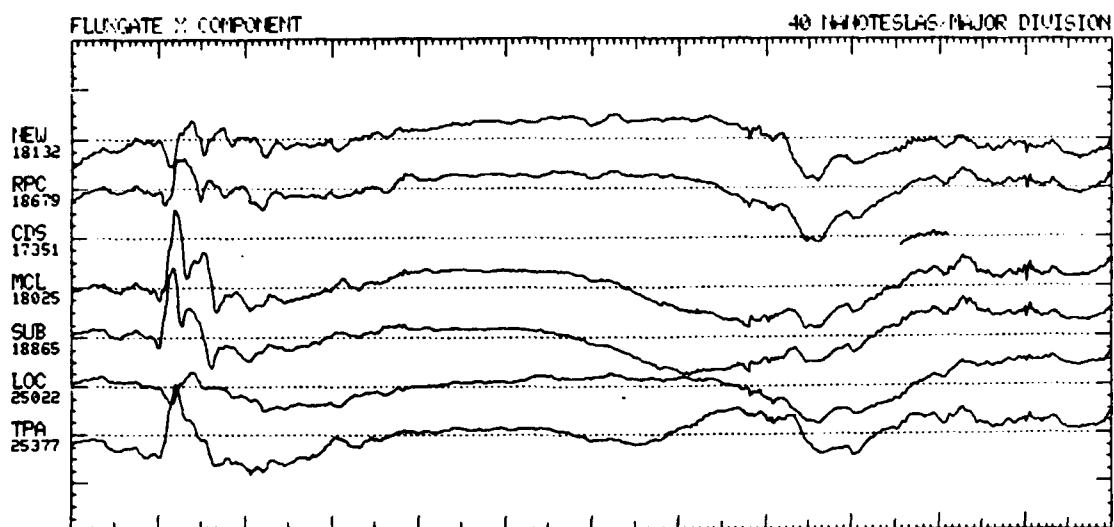
F/G 8/14

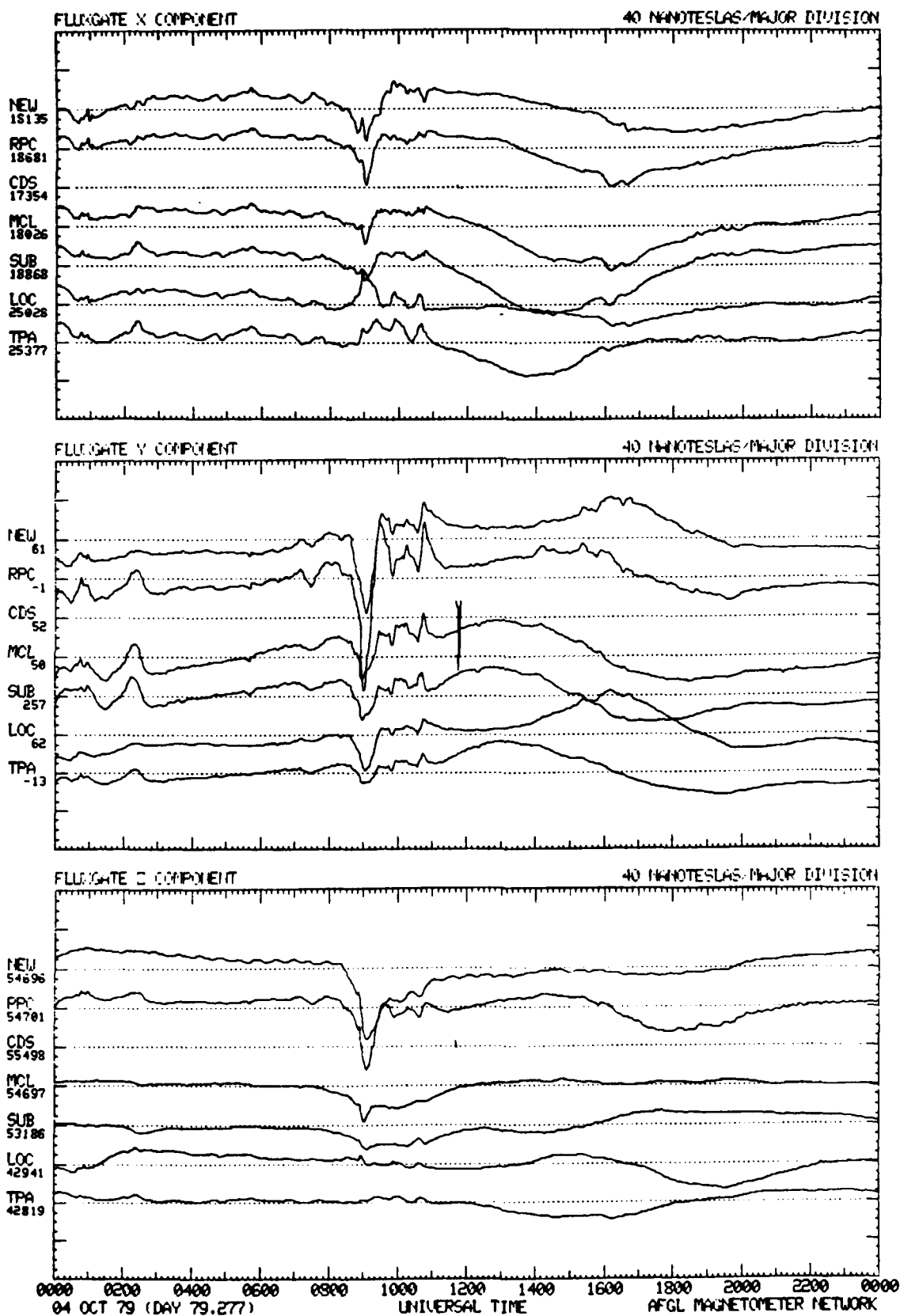
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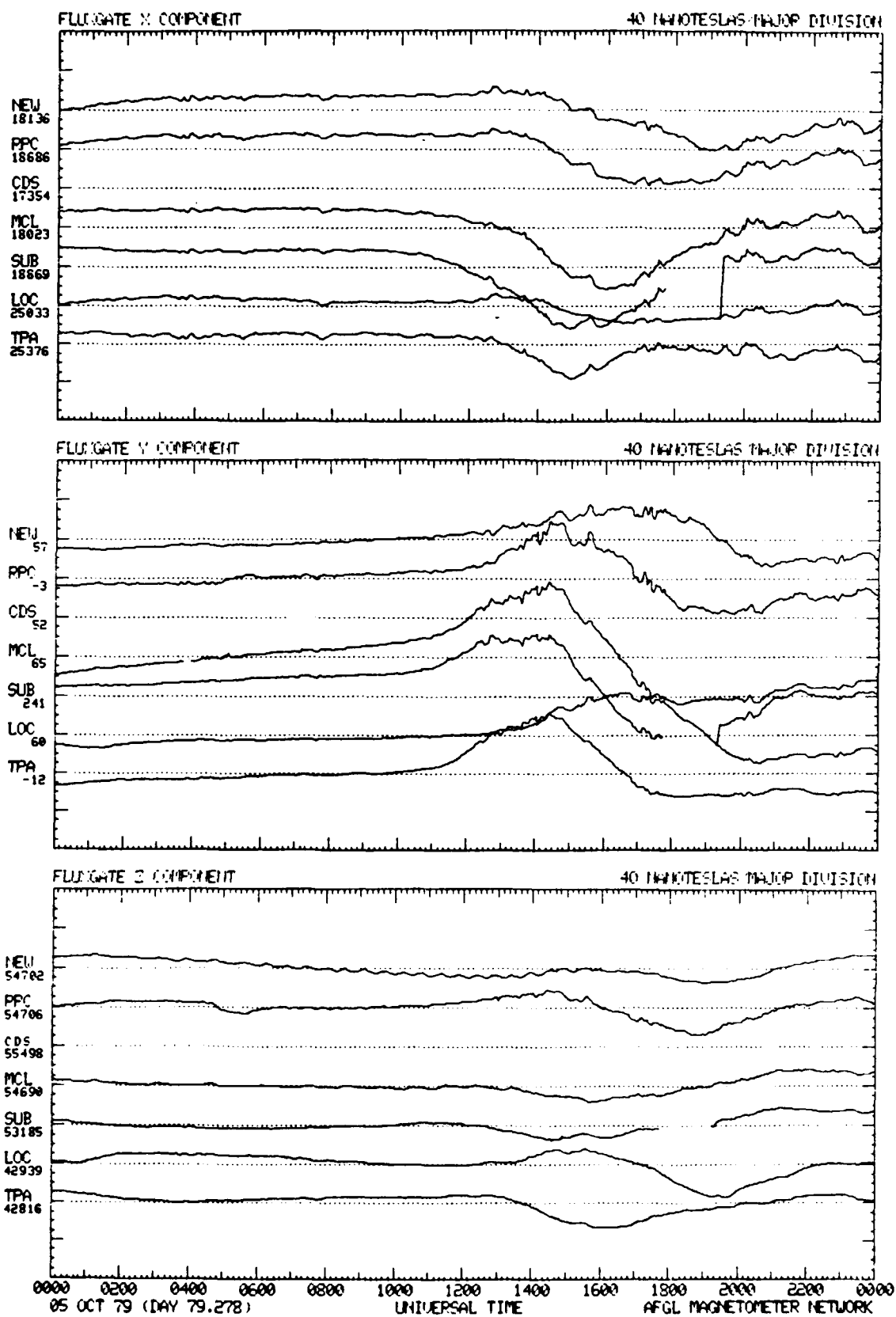
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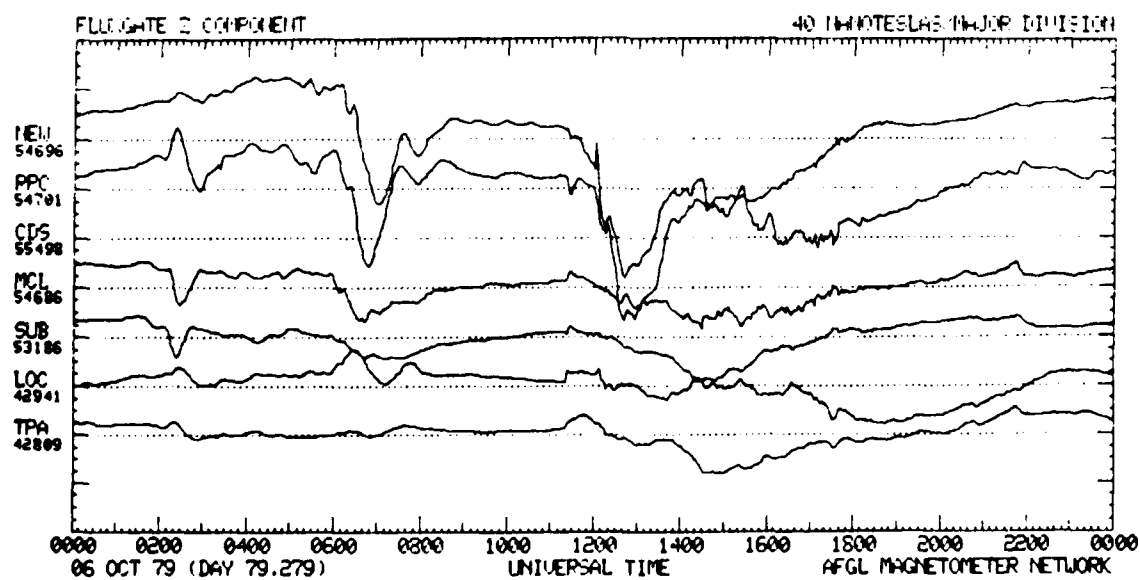
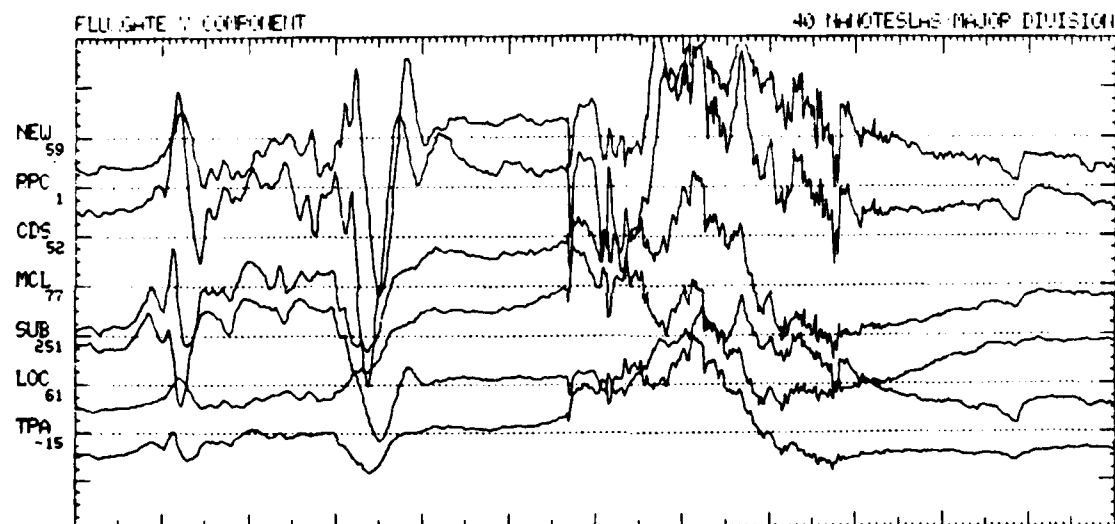
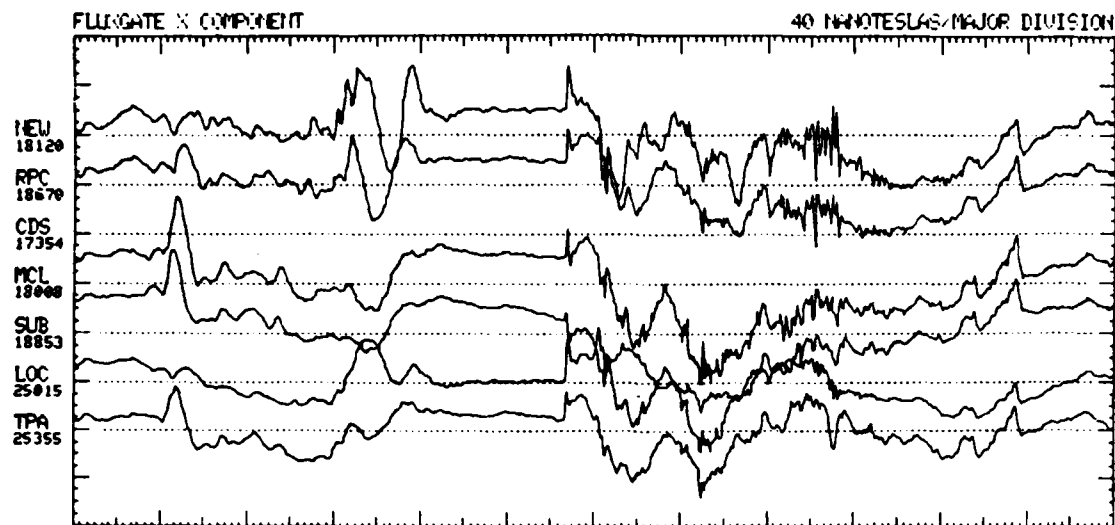


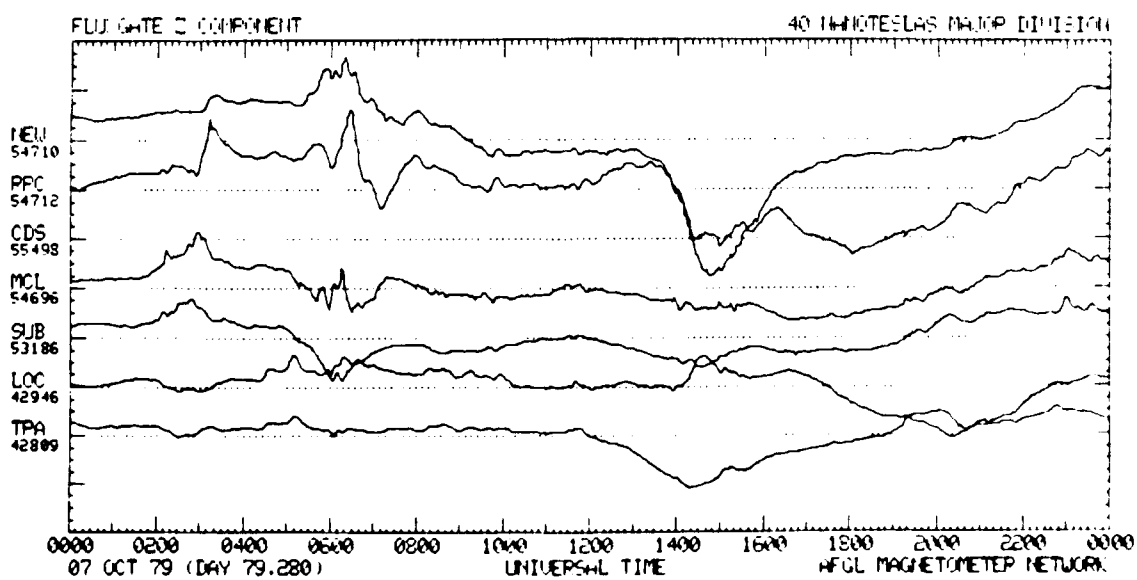
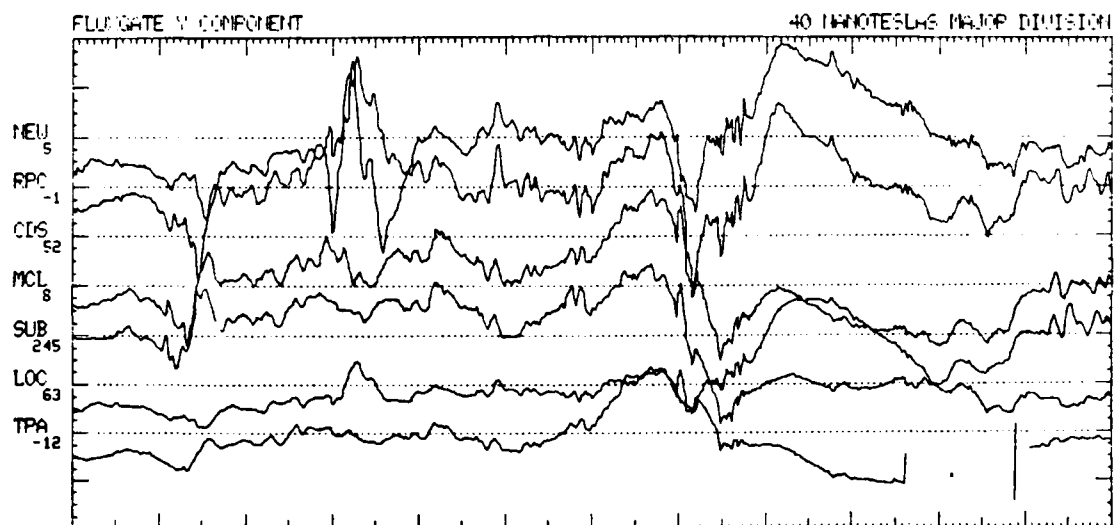
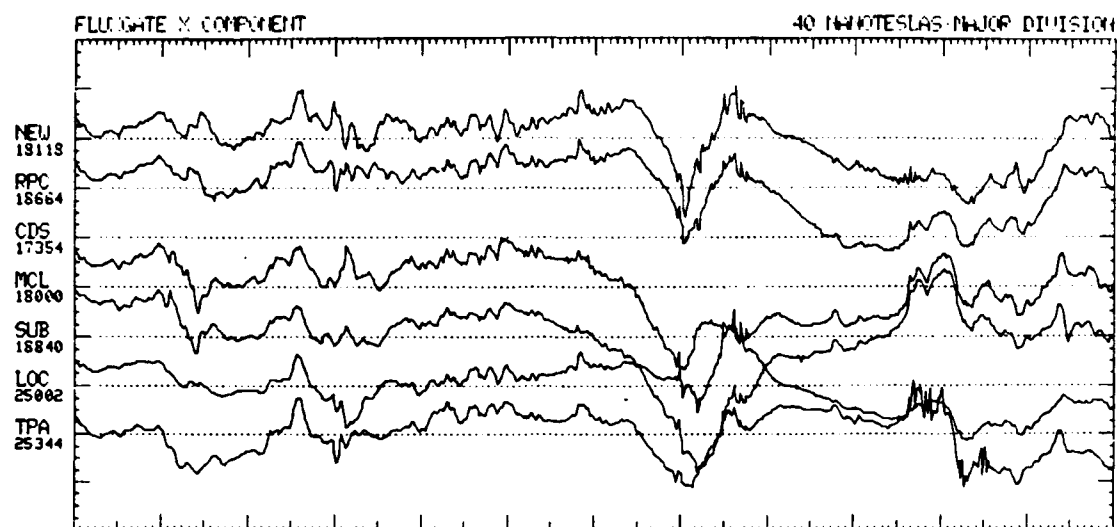
XEROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

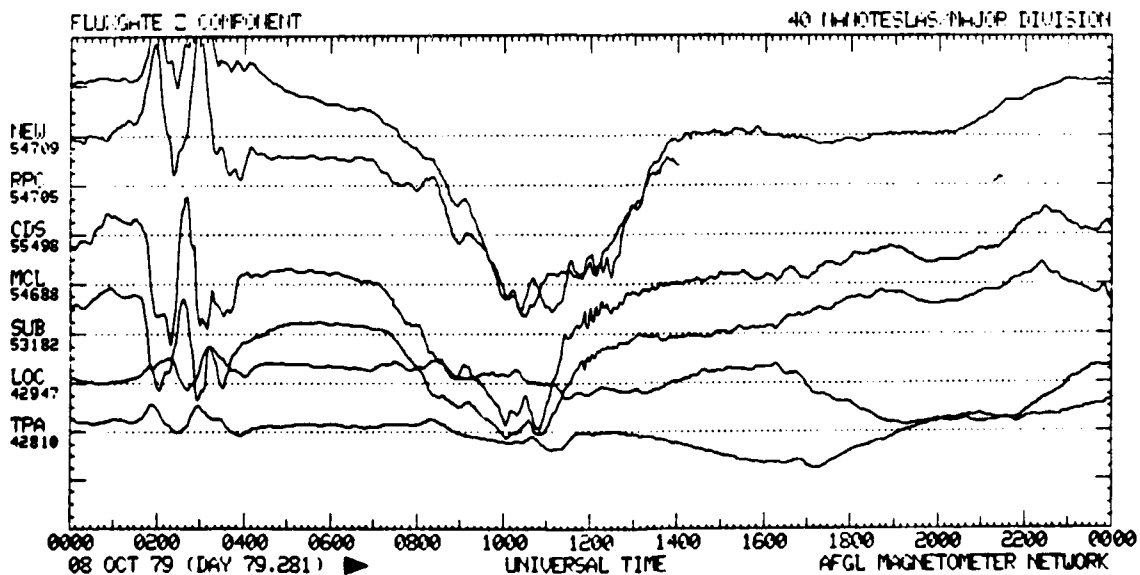
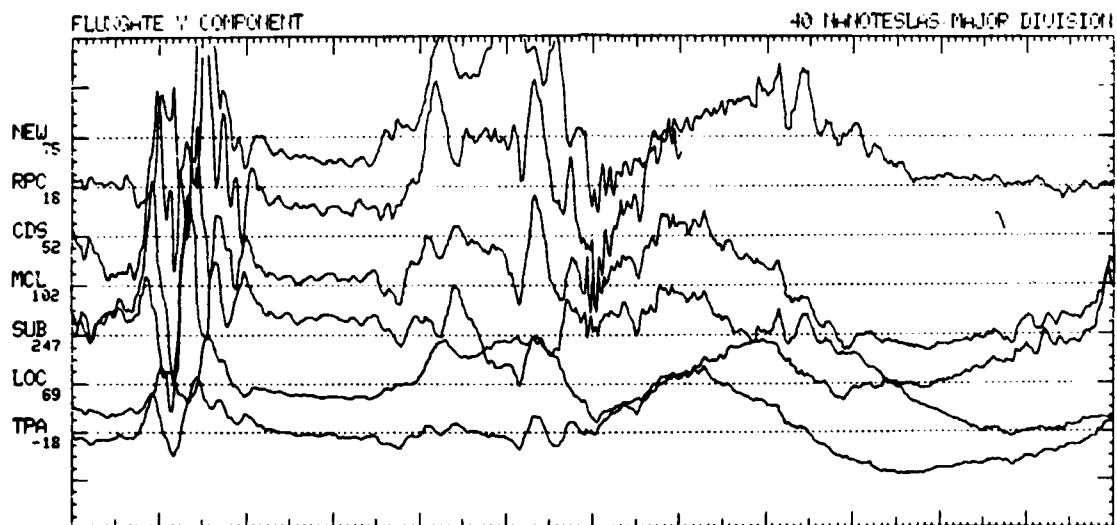
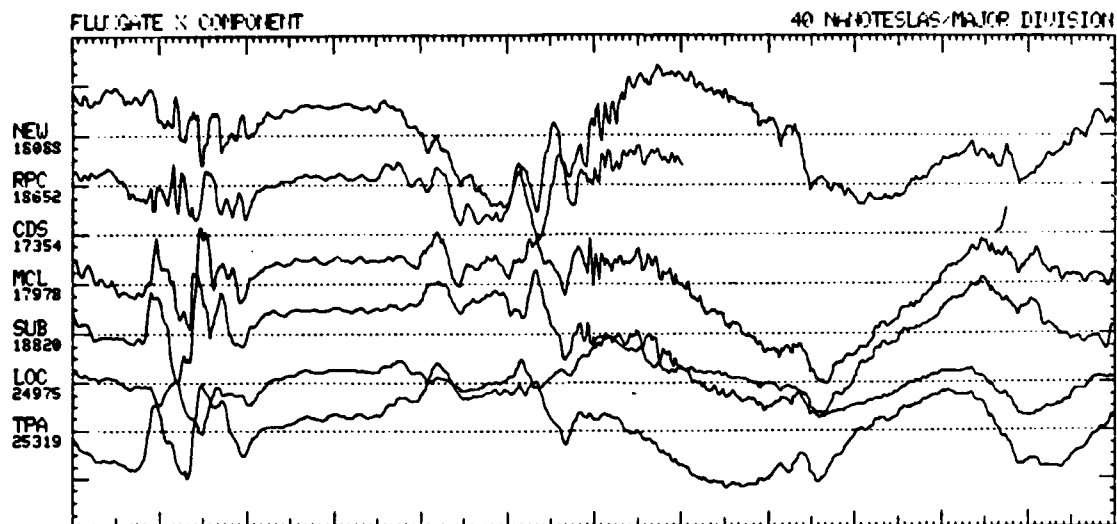


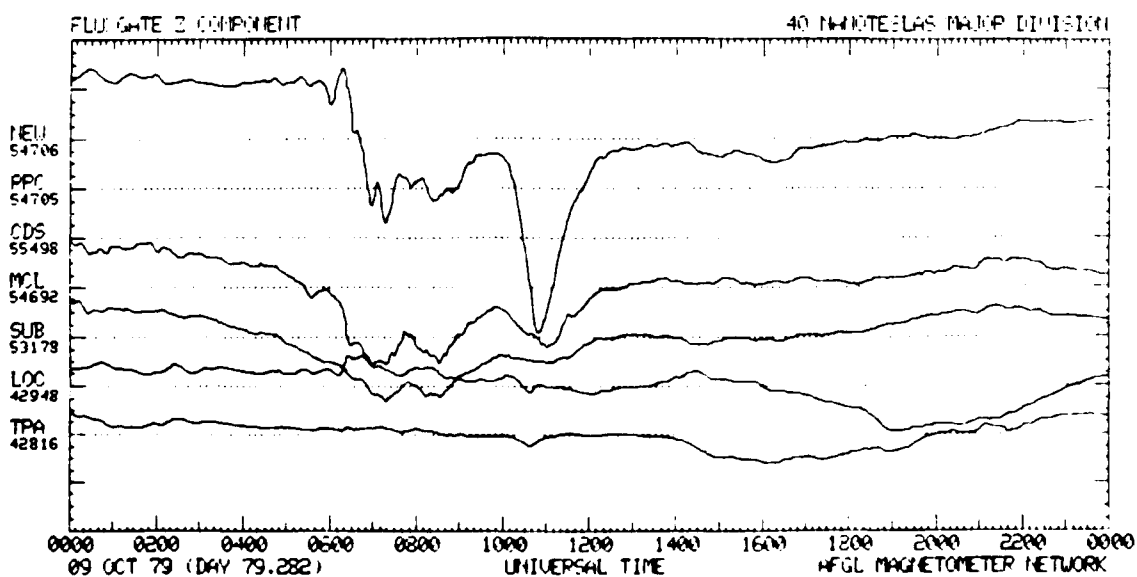
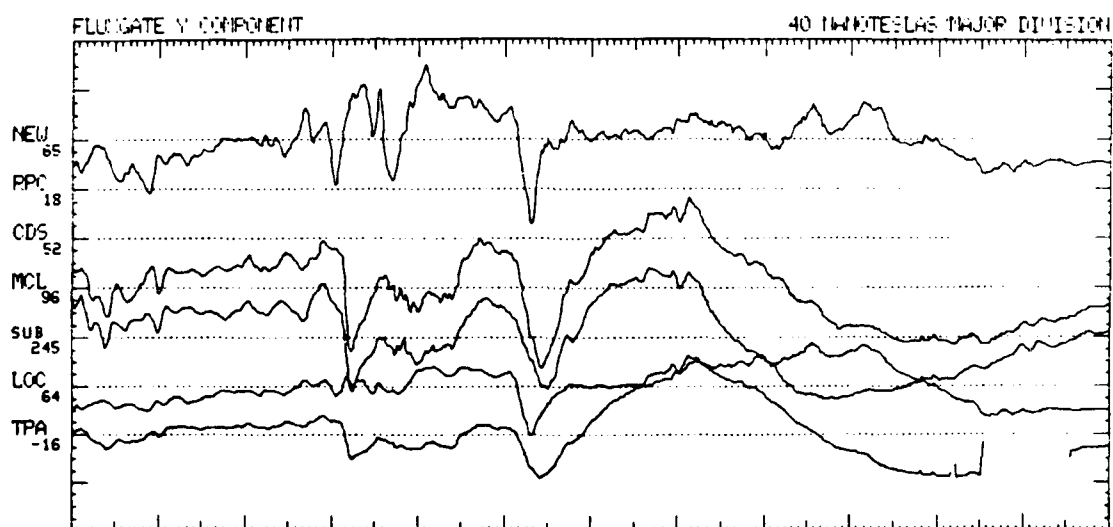
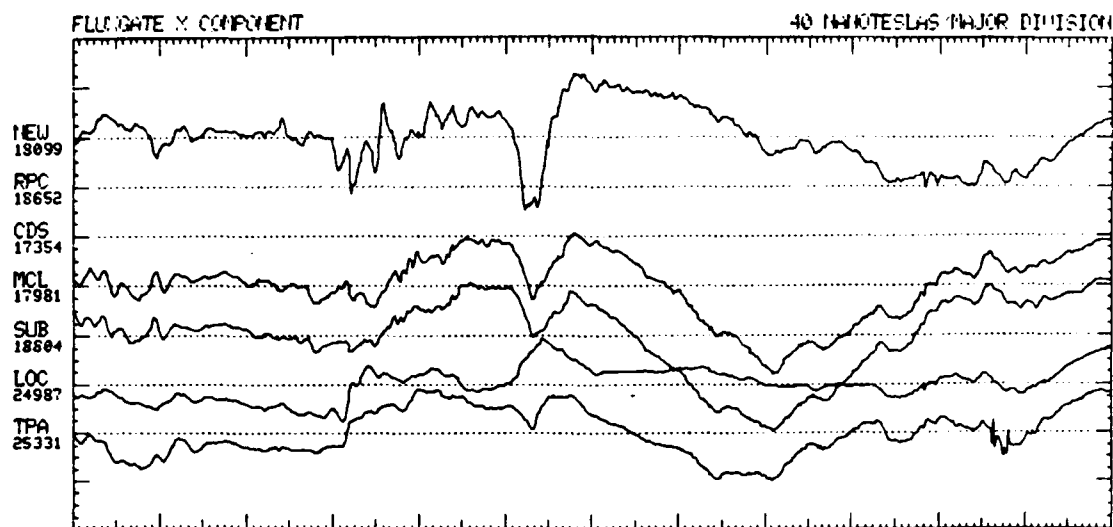


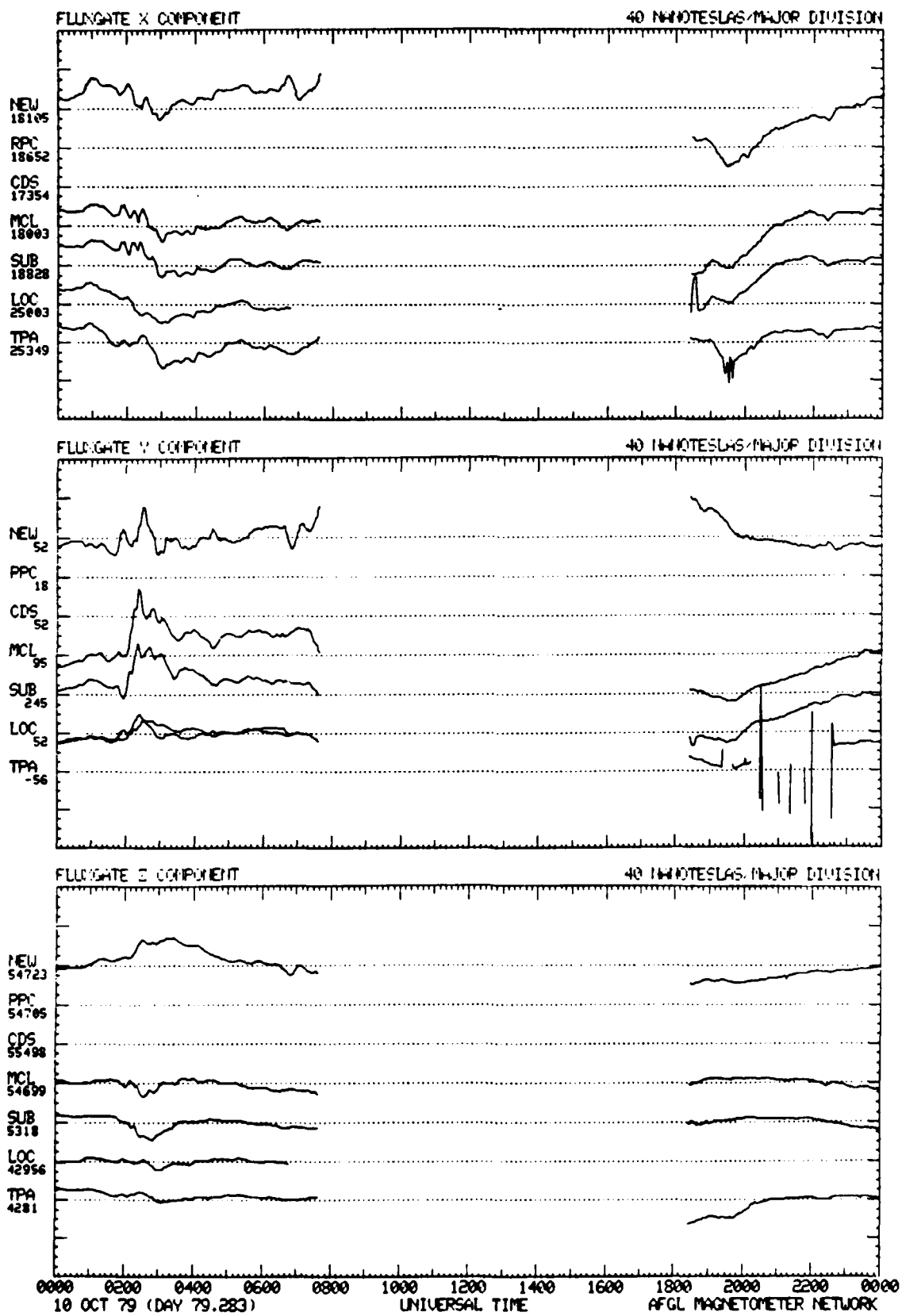


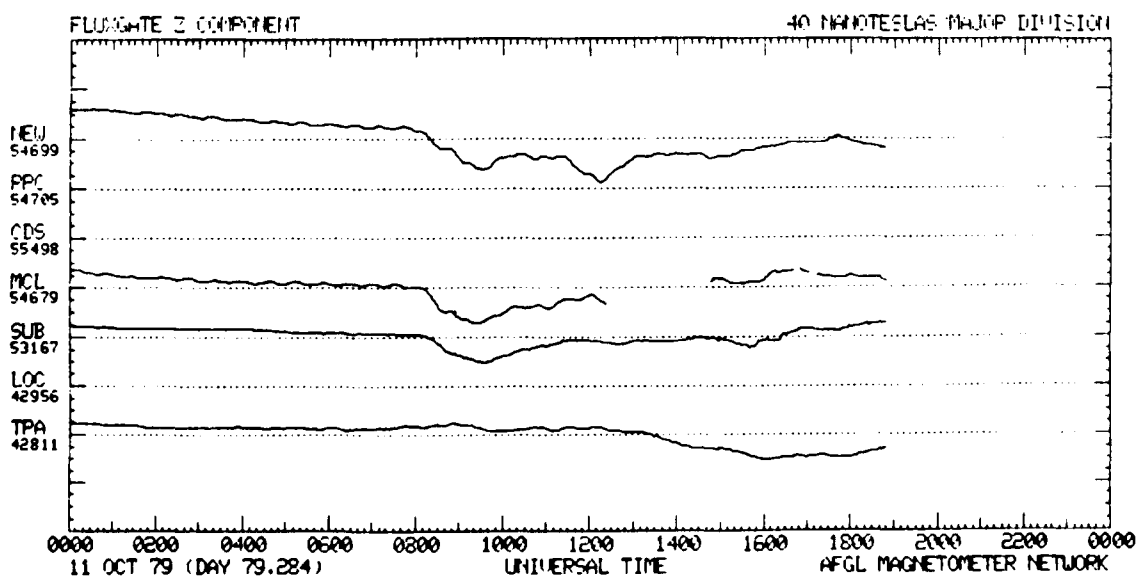
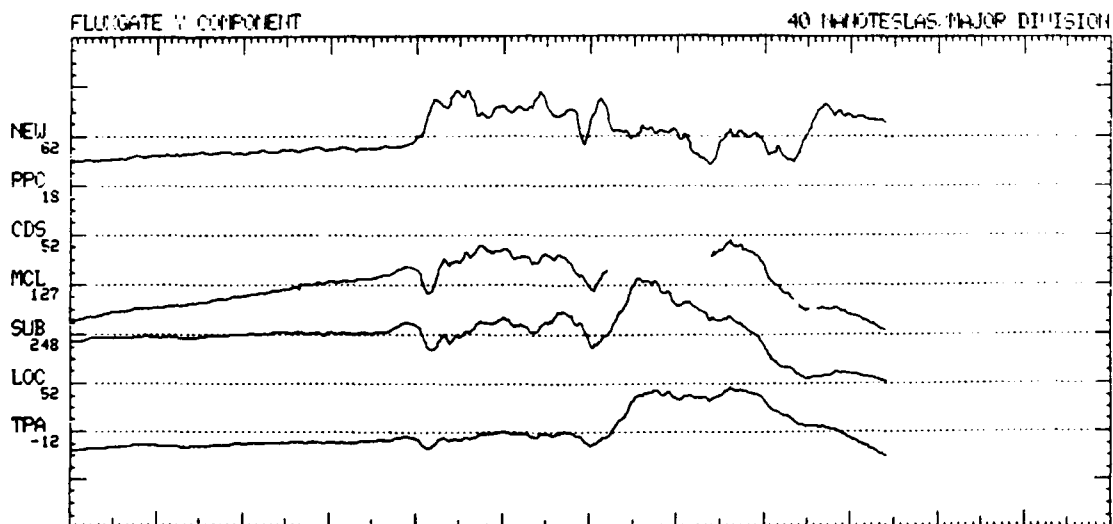
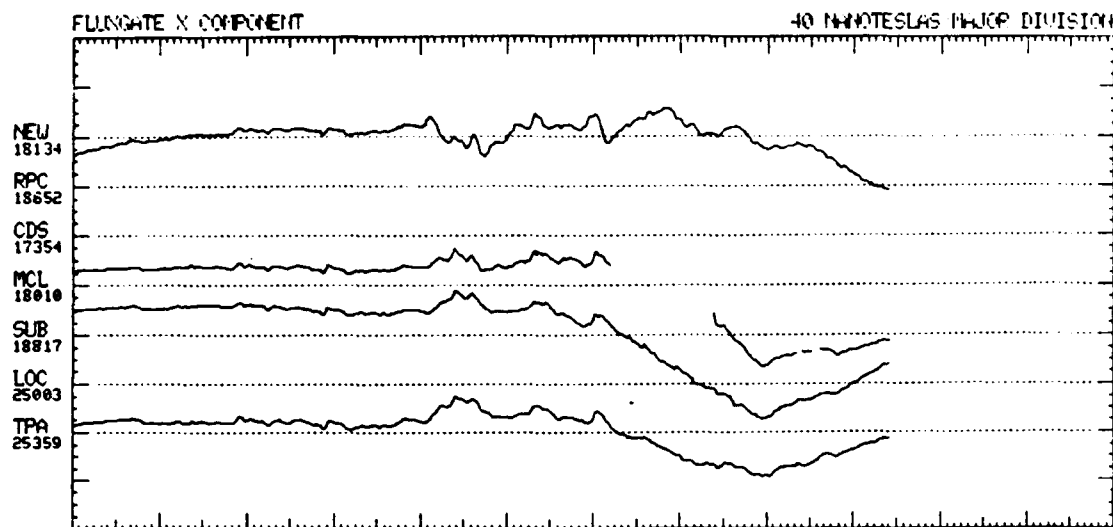


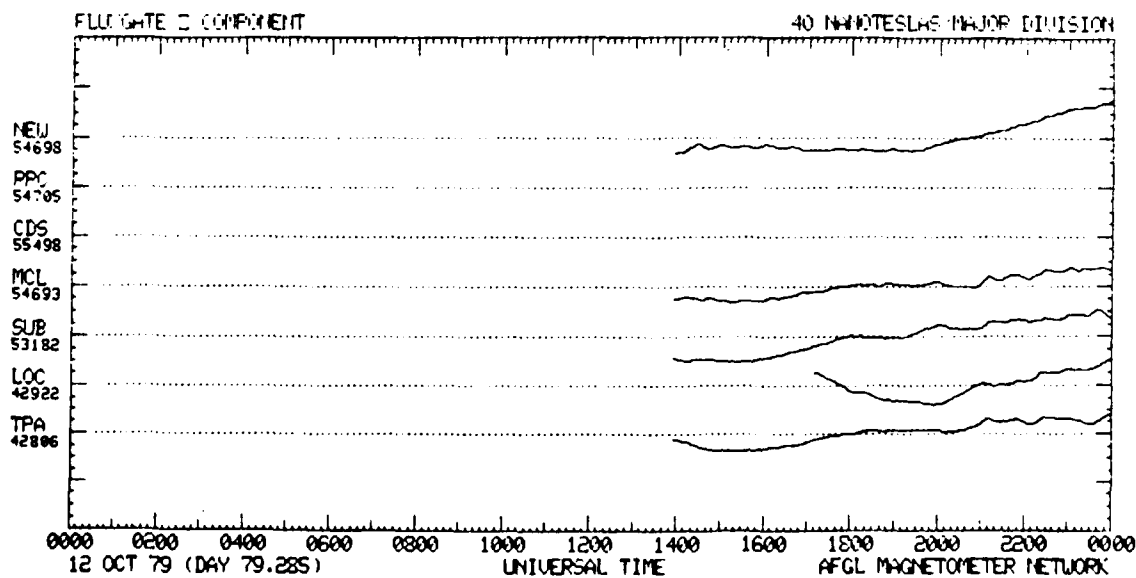
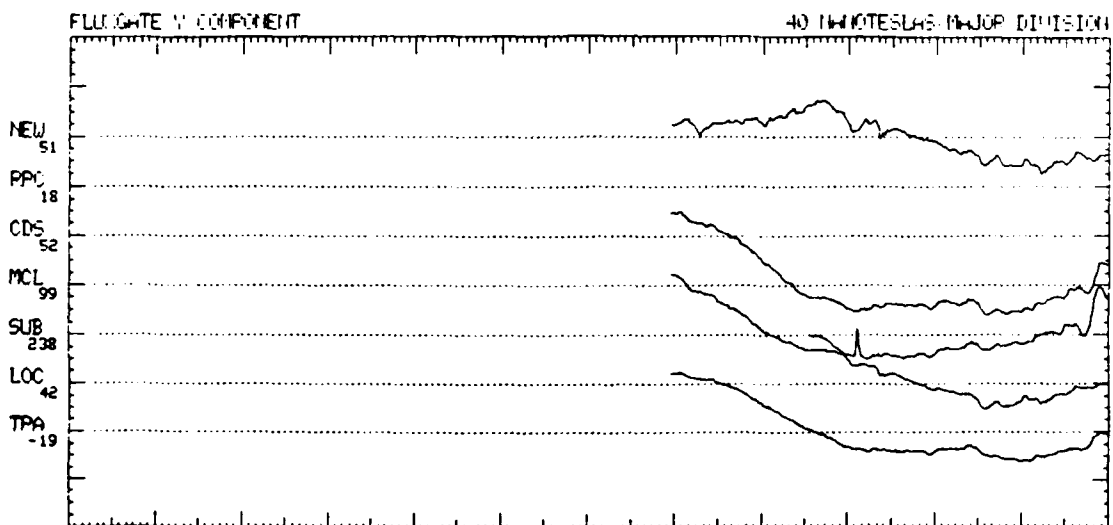
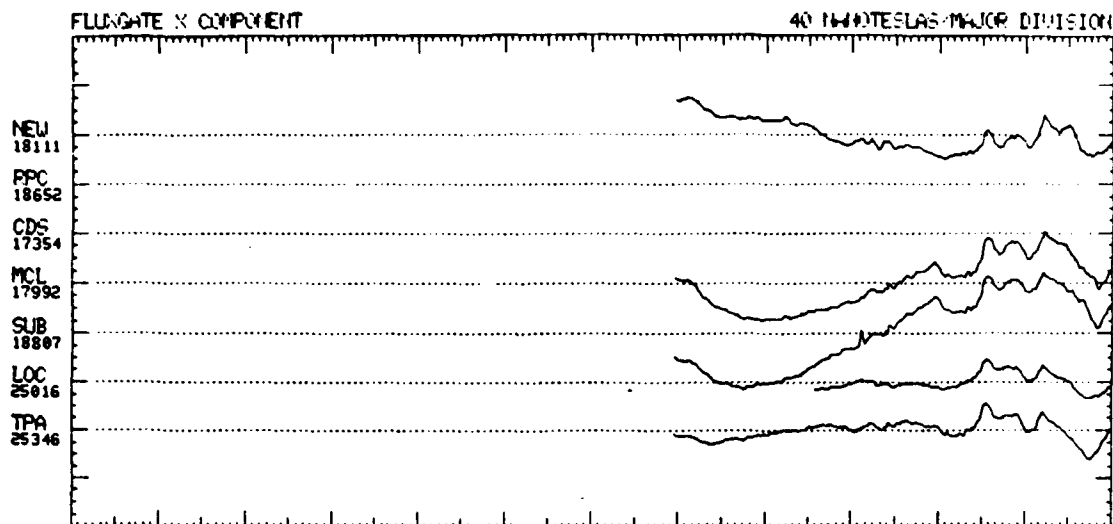


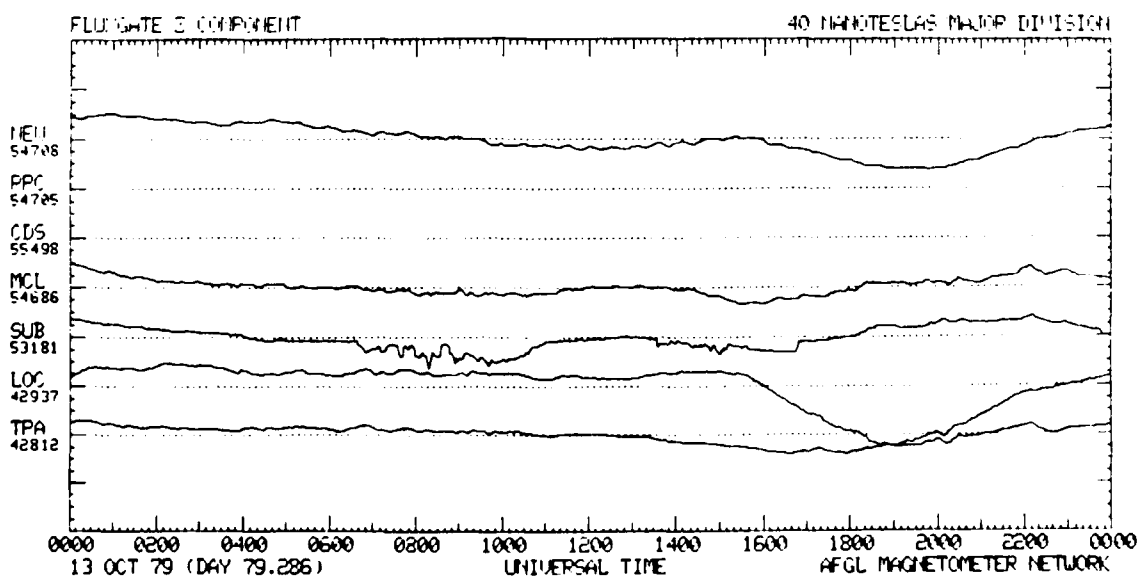
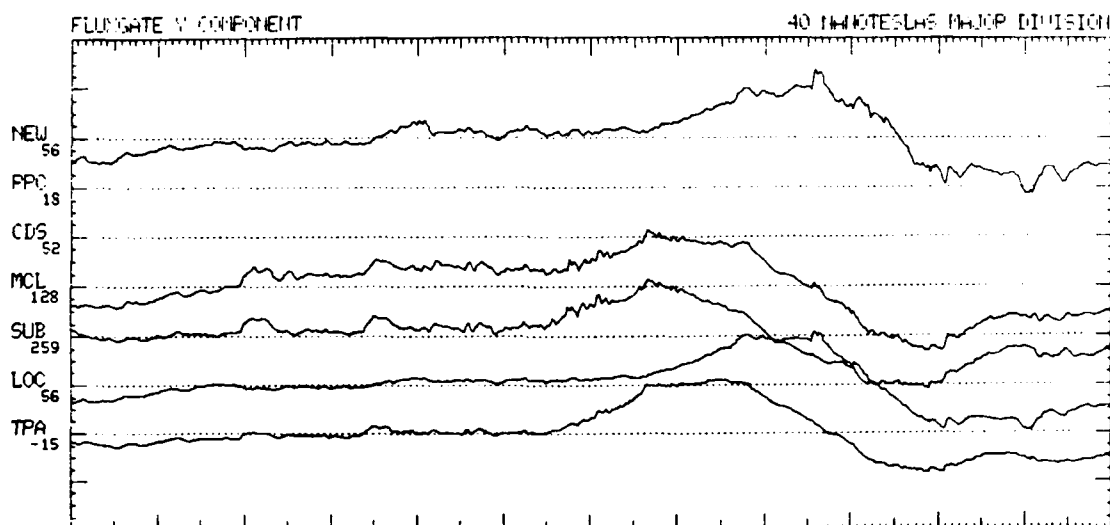
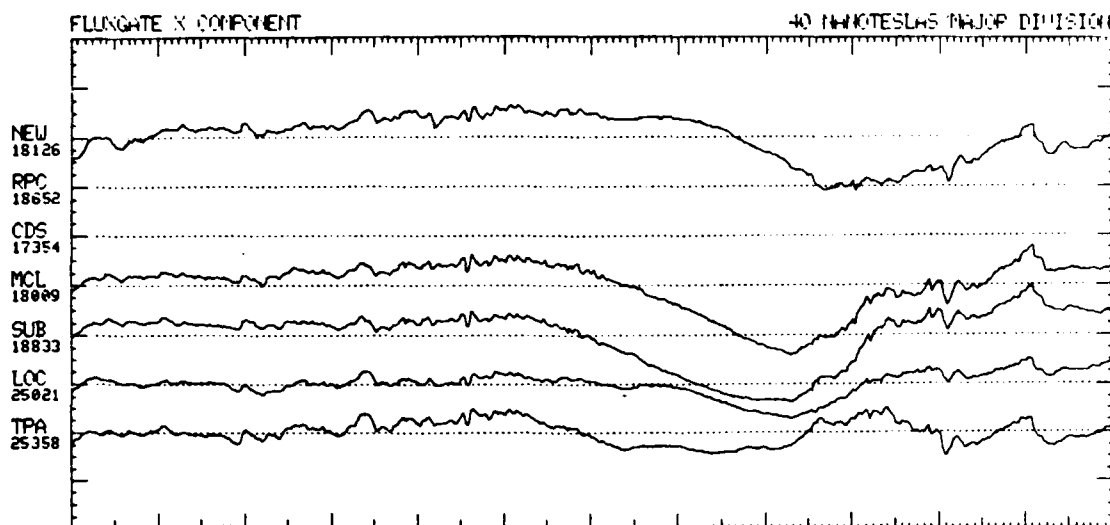


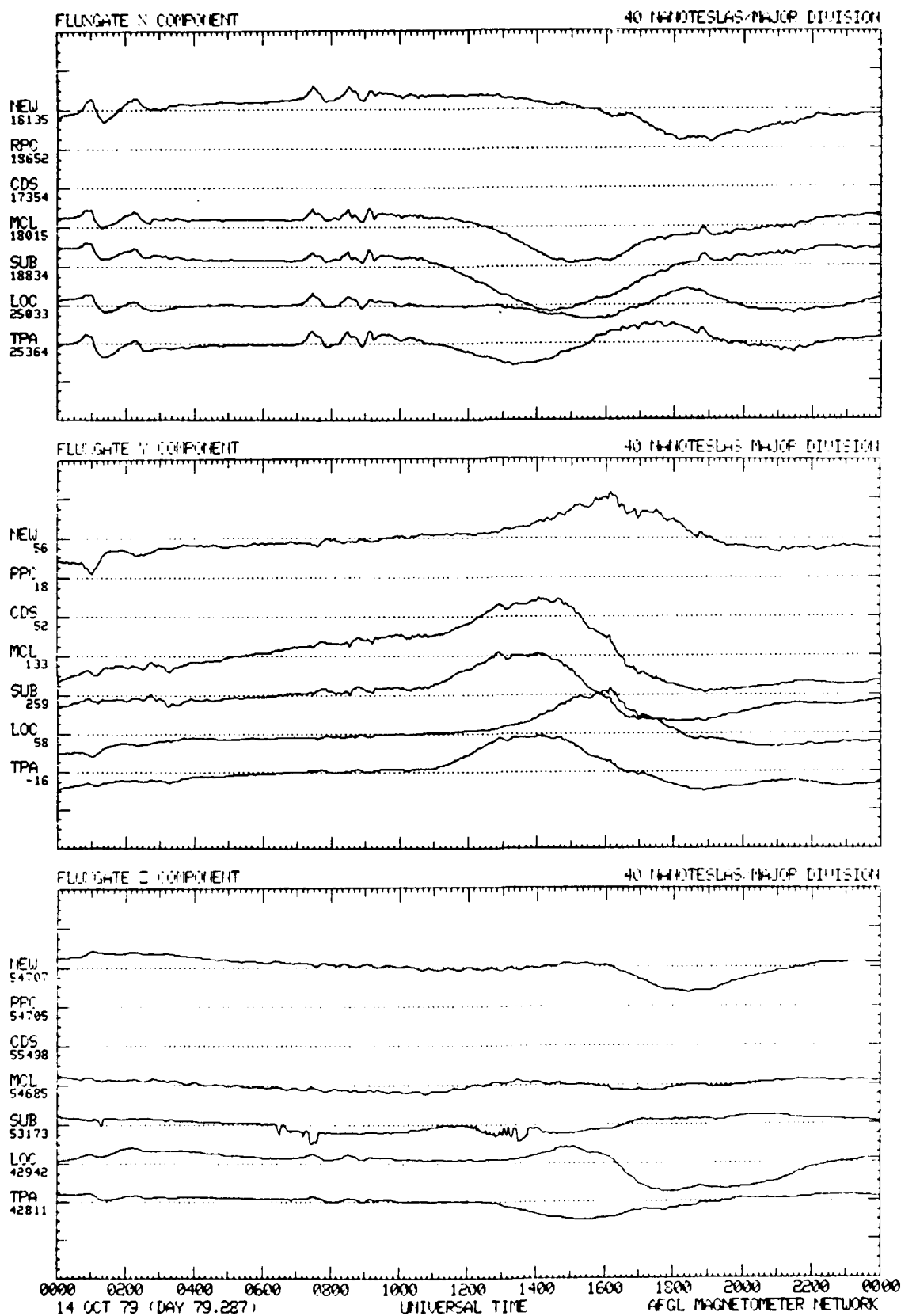


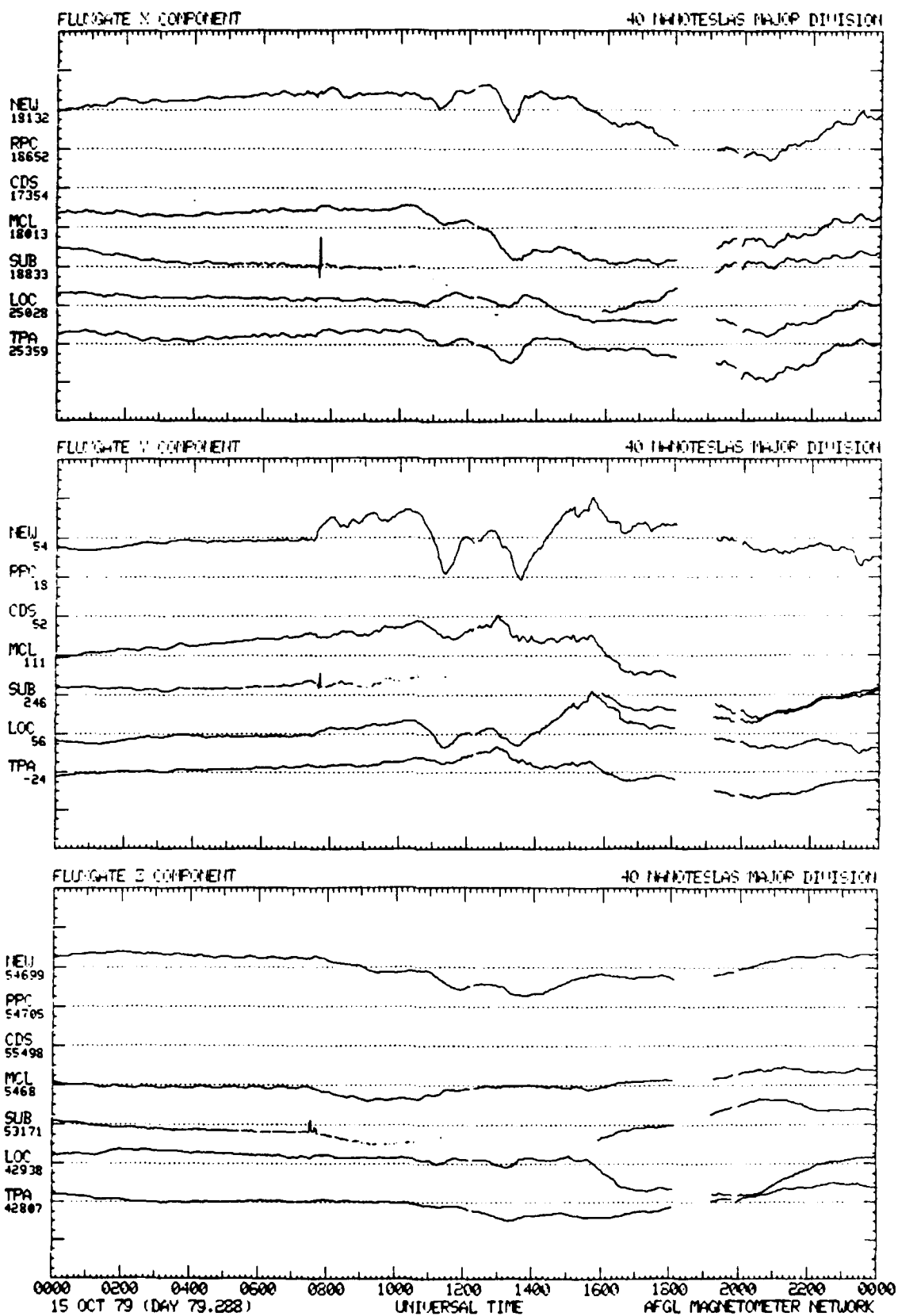


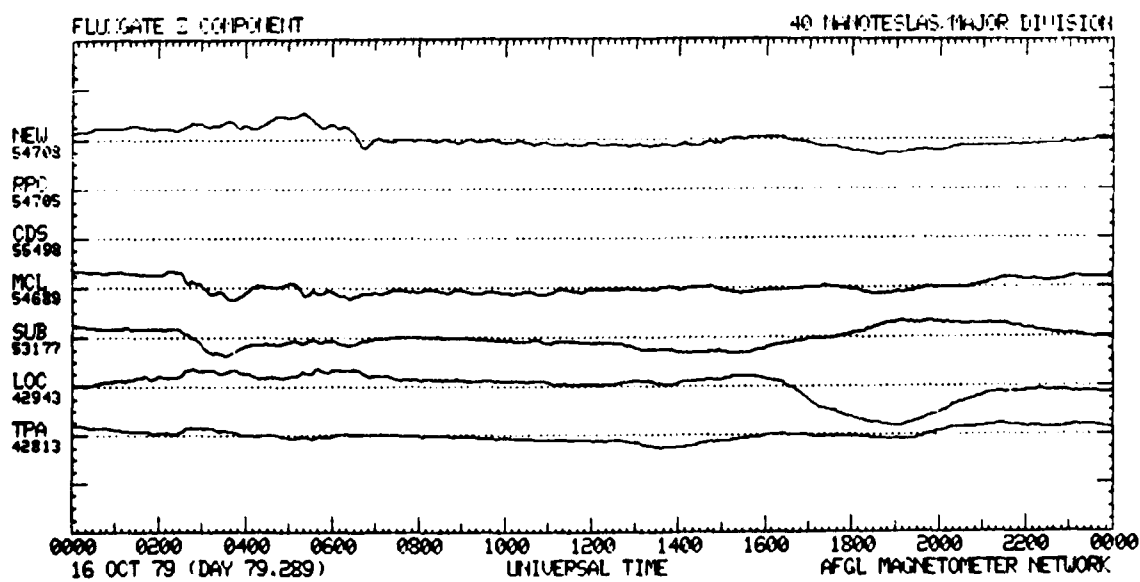
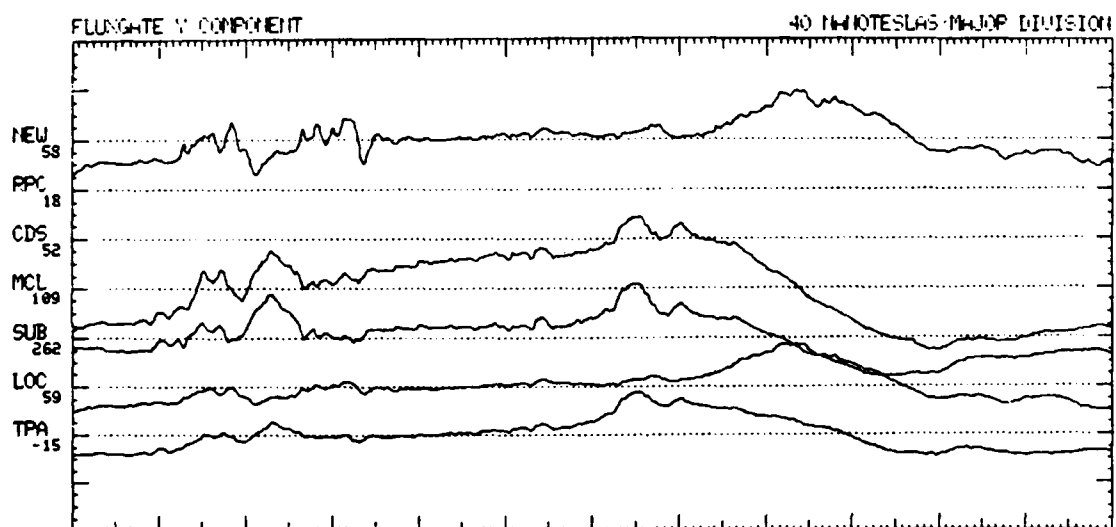
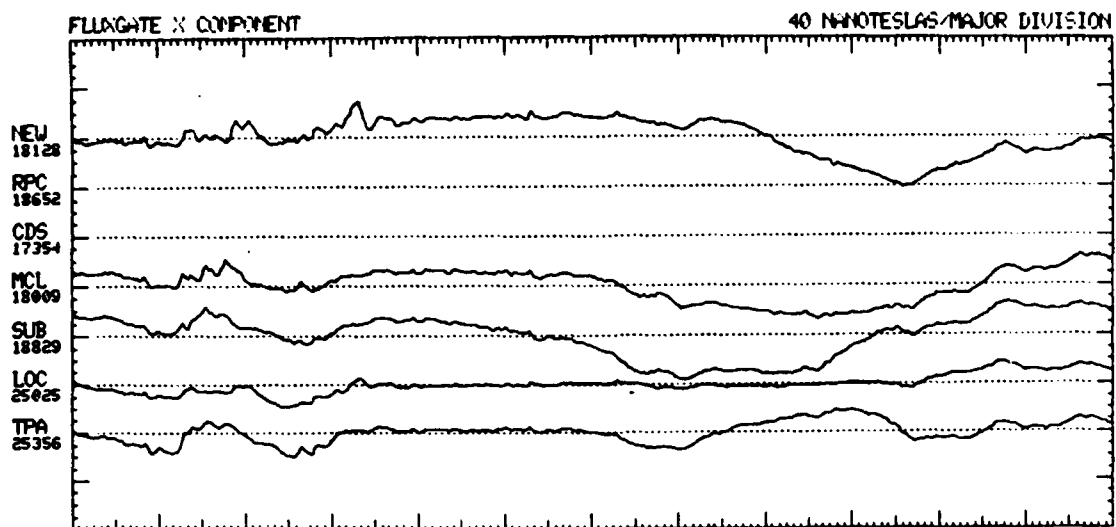


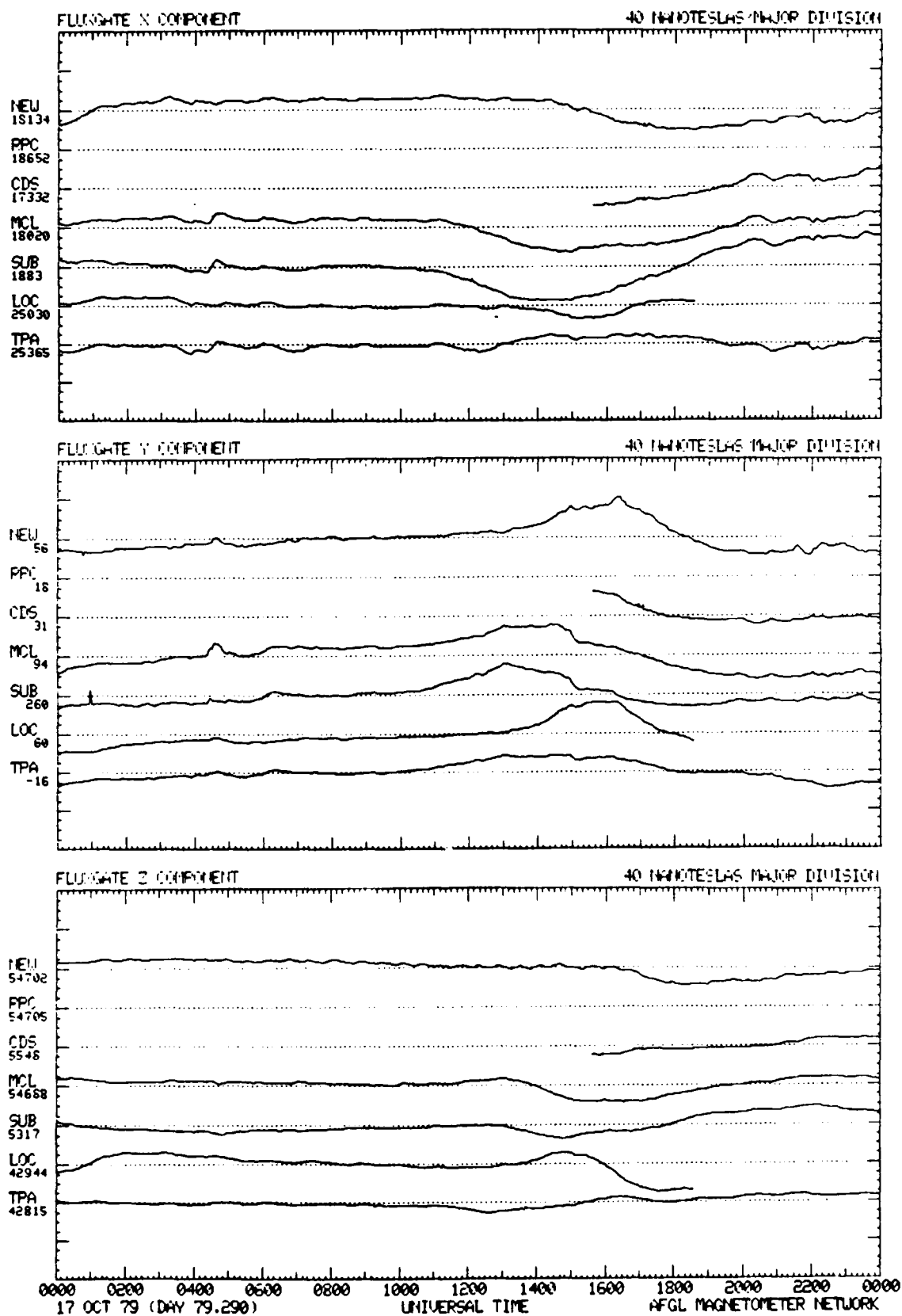


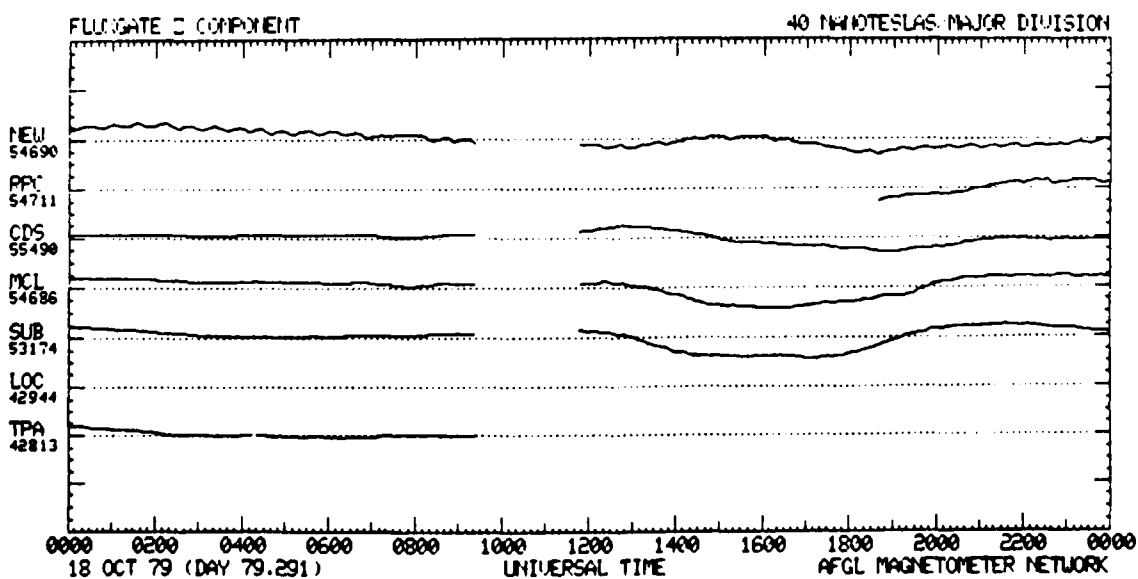
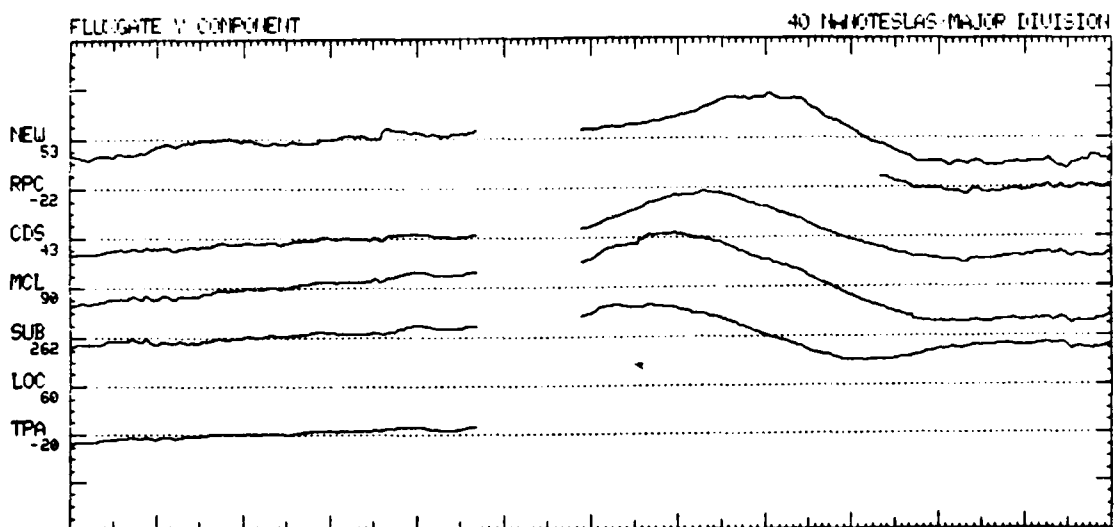
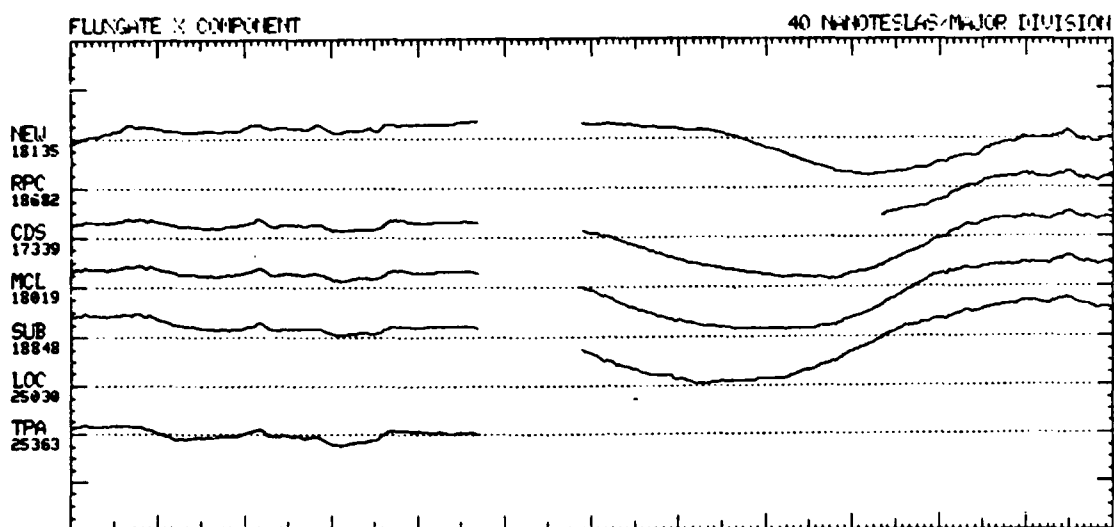


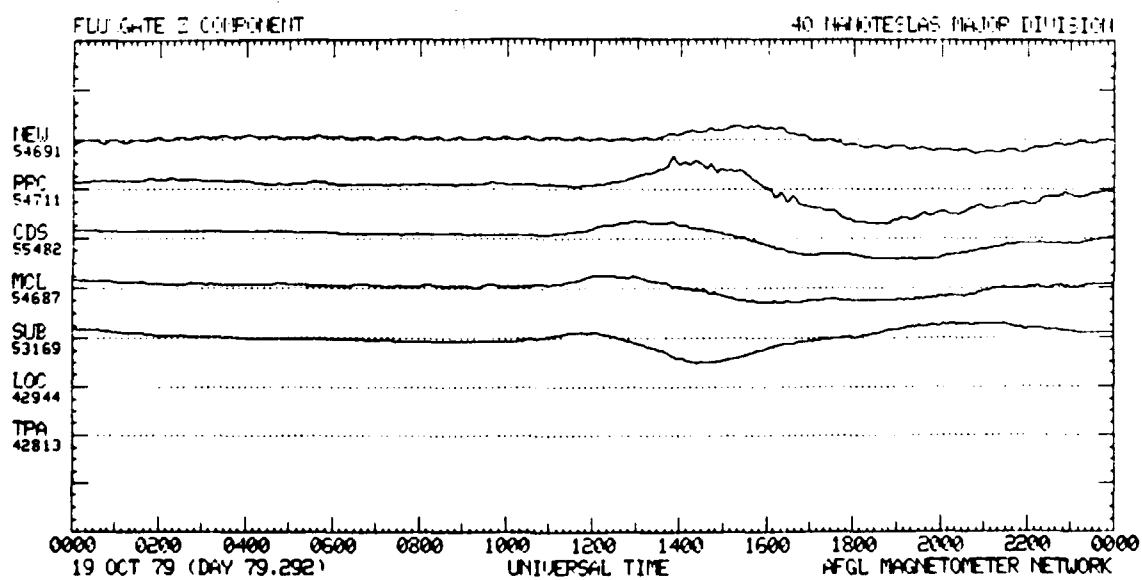
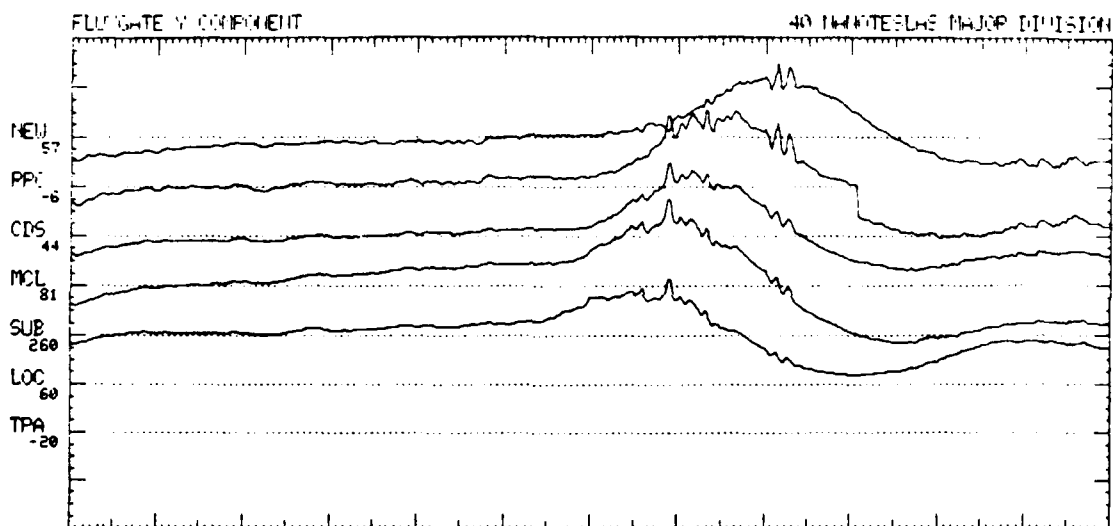
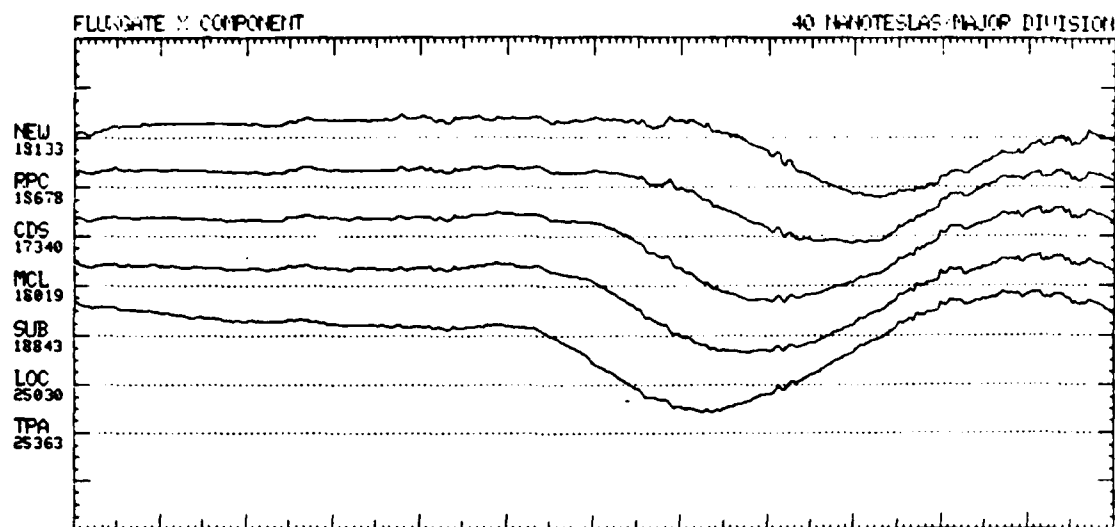


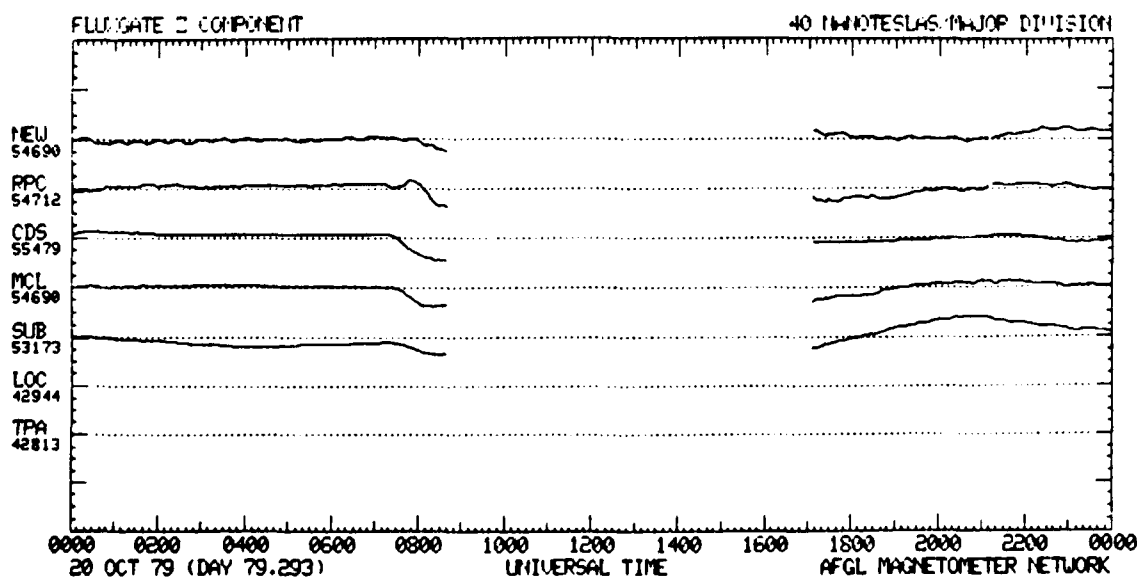
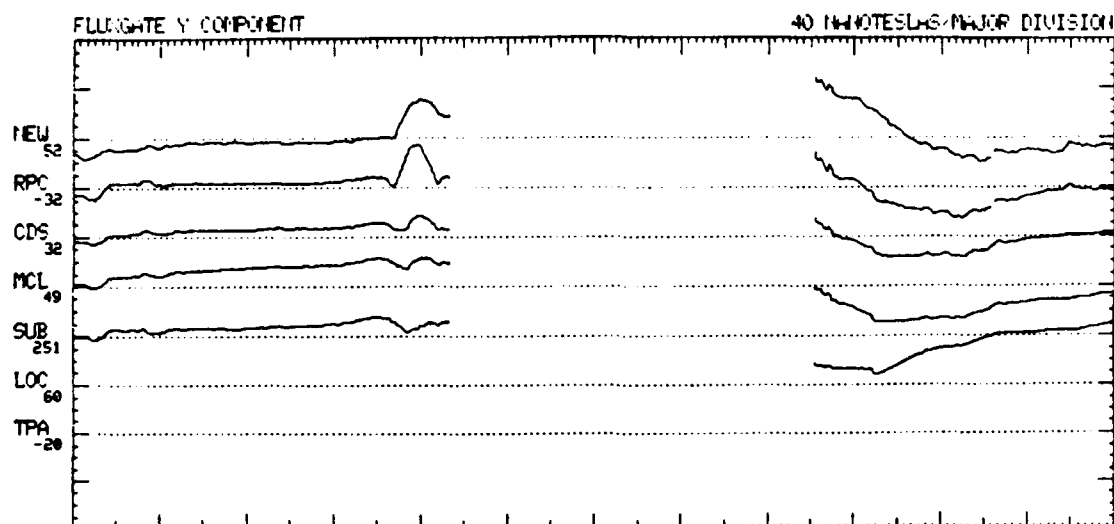
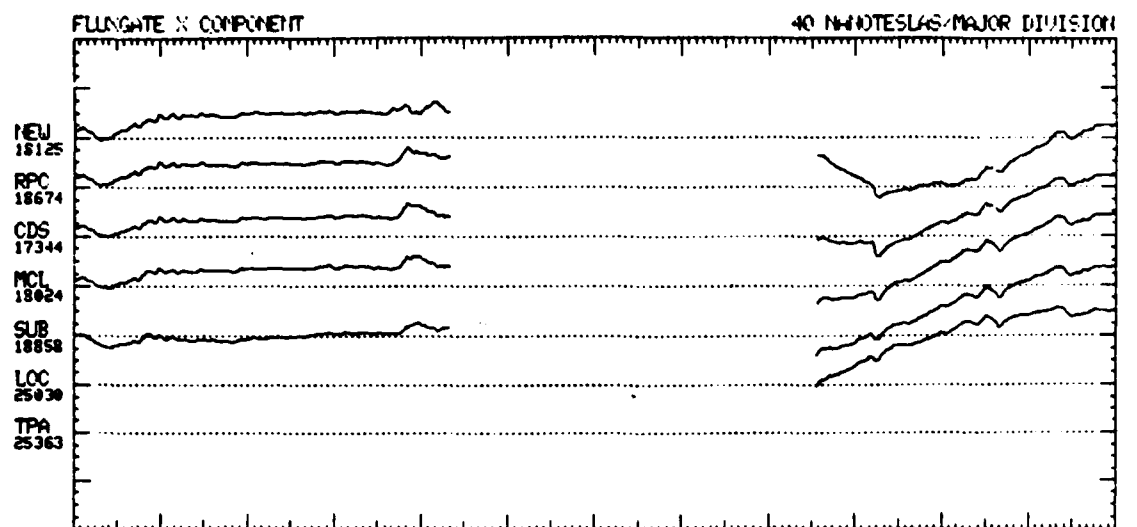


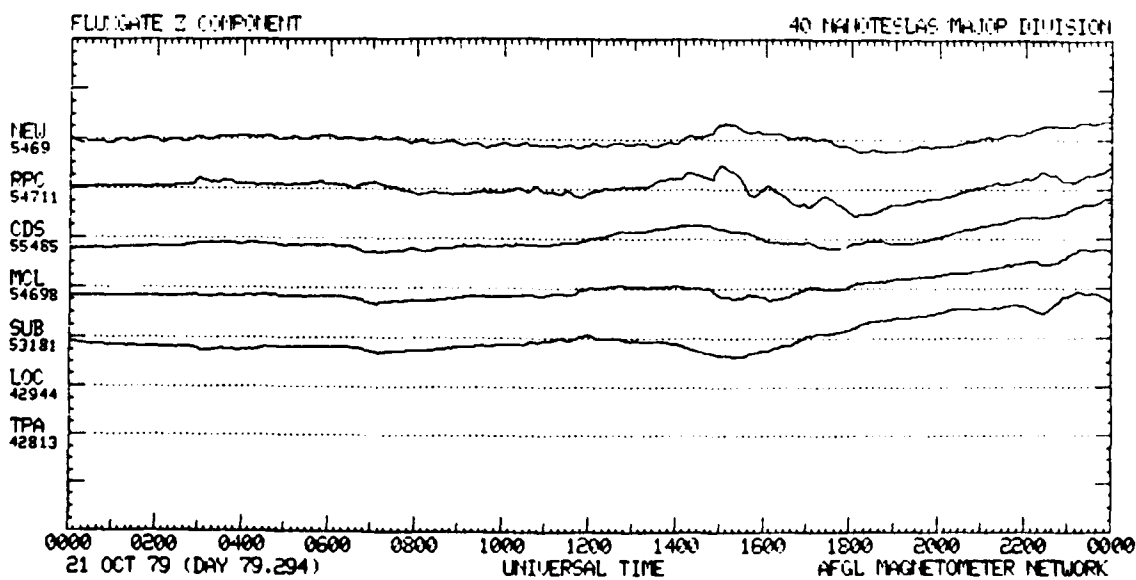
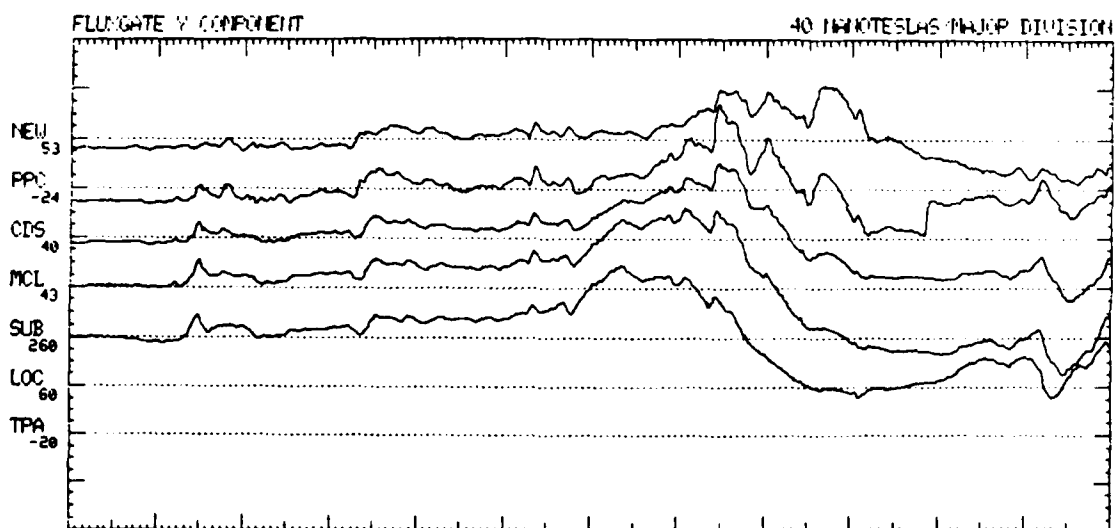
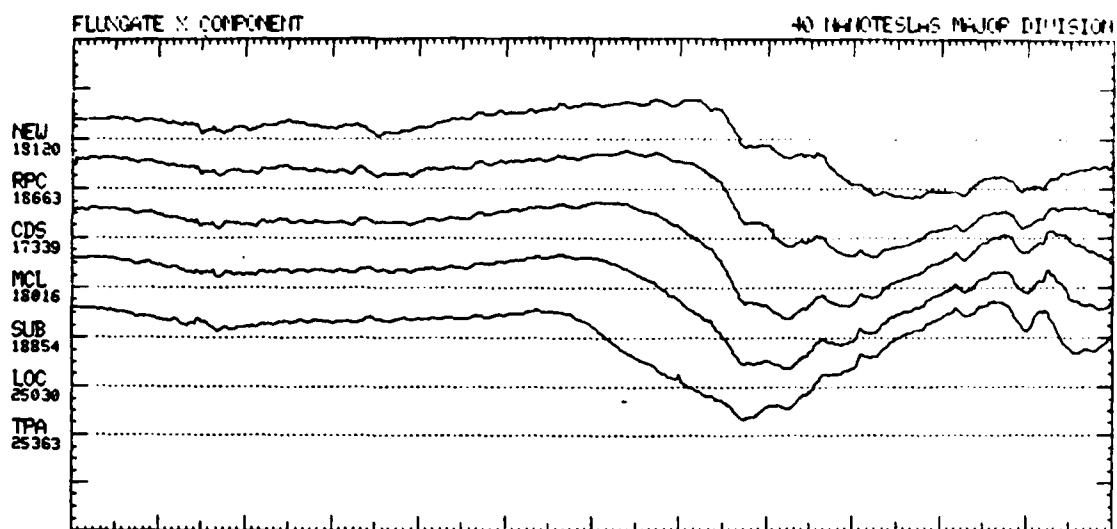


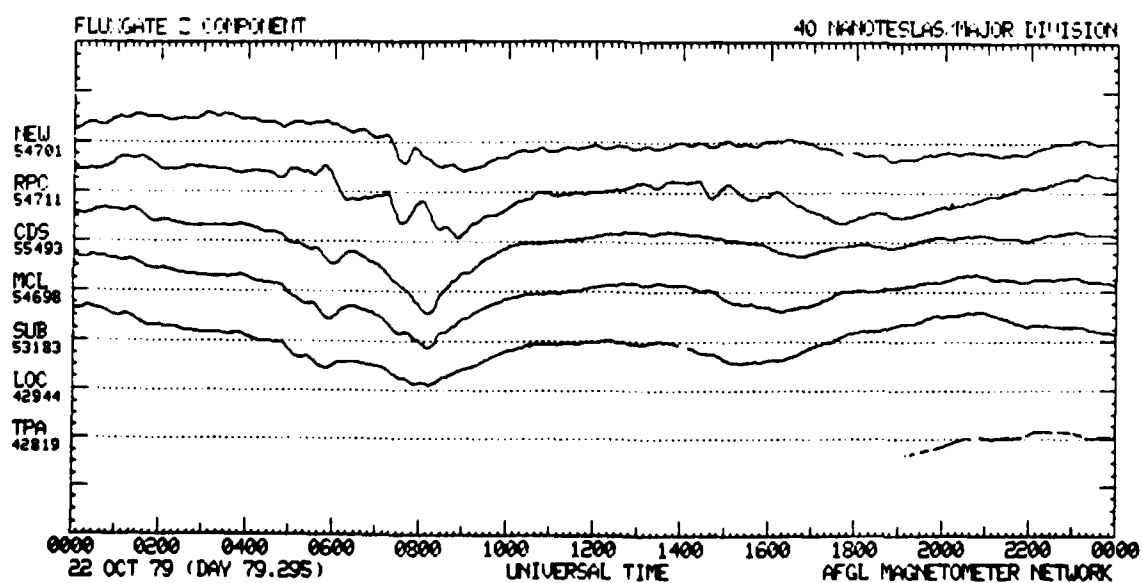
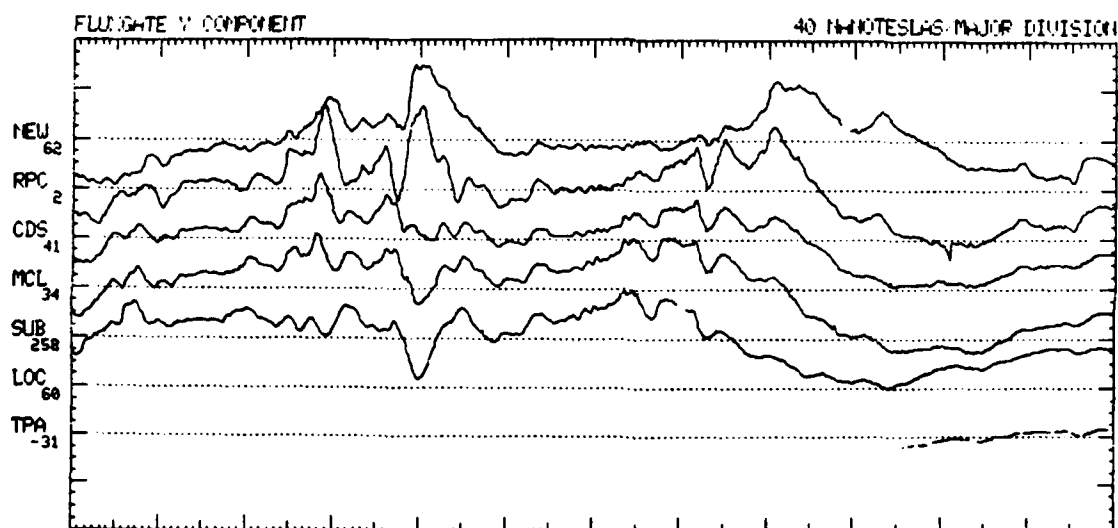
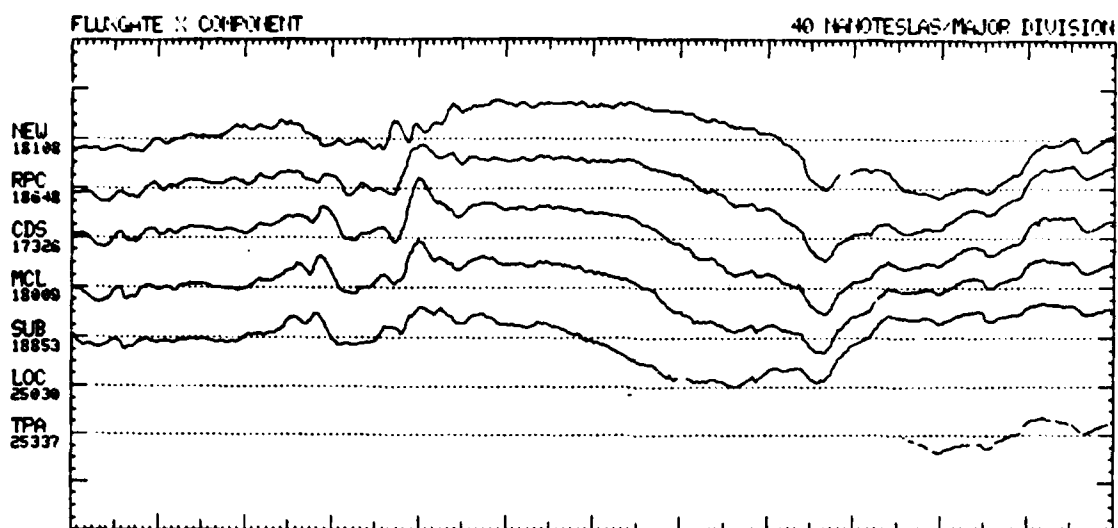


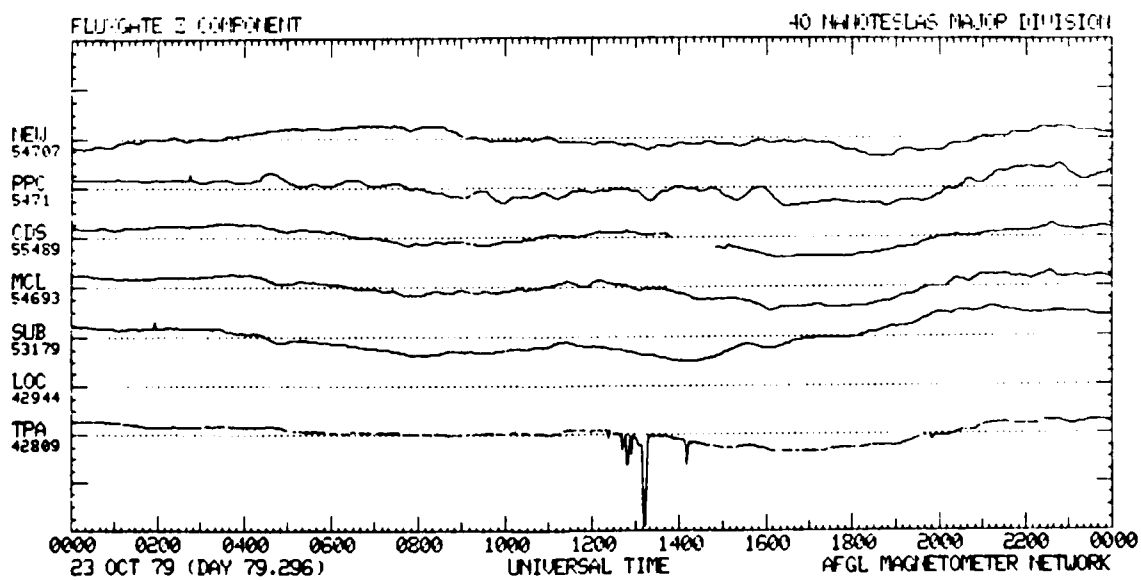
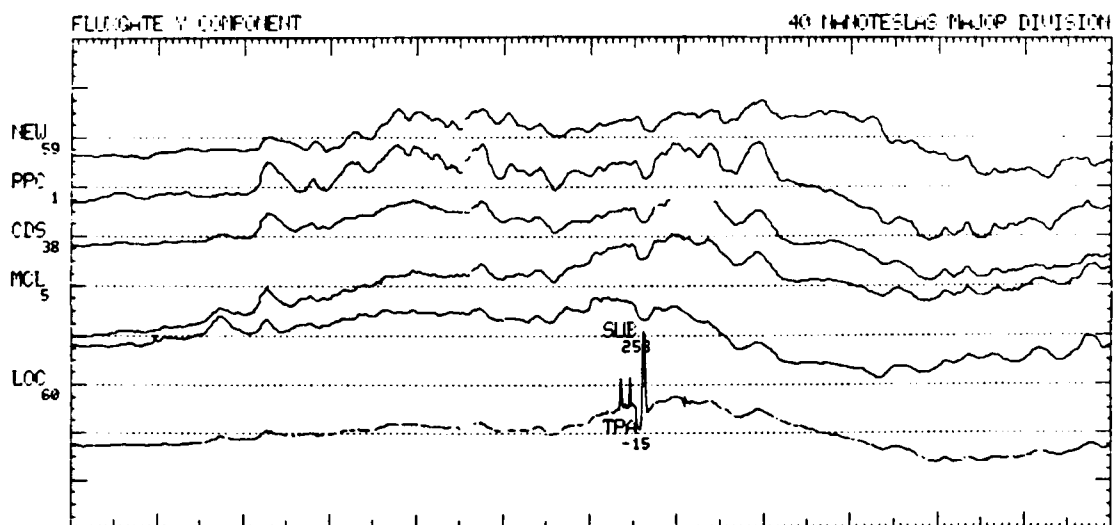
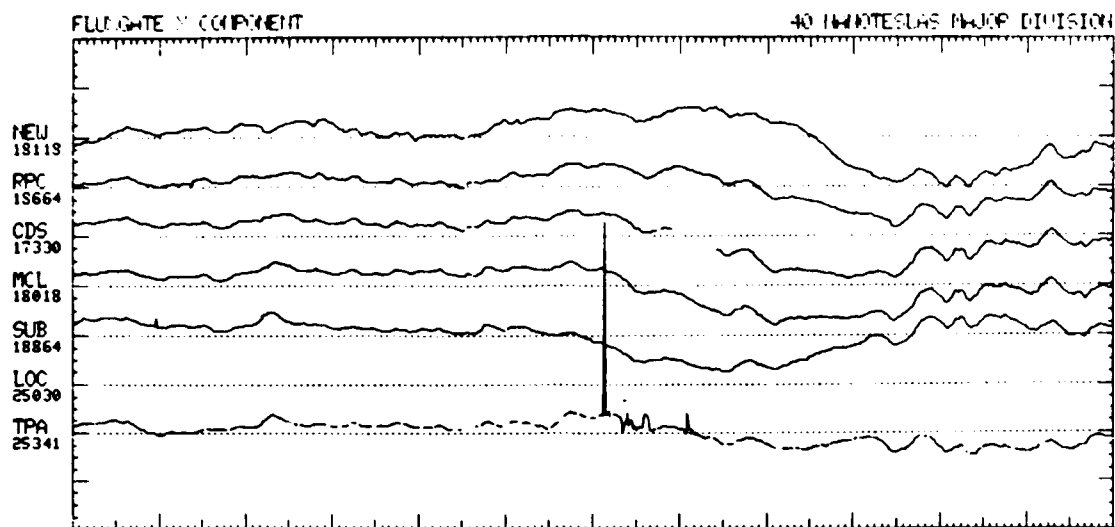


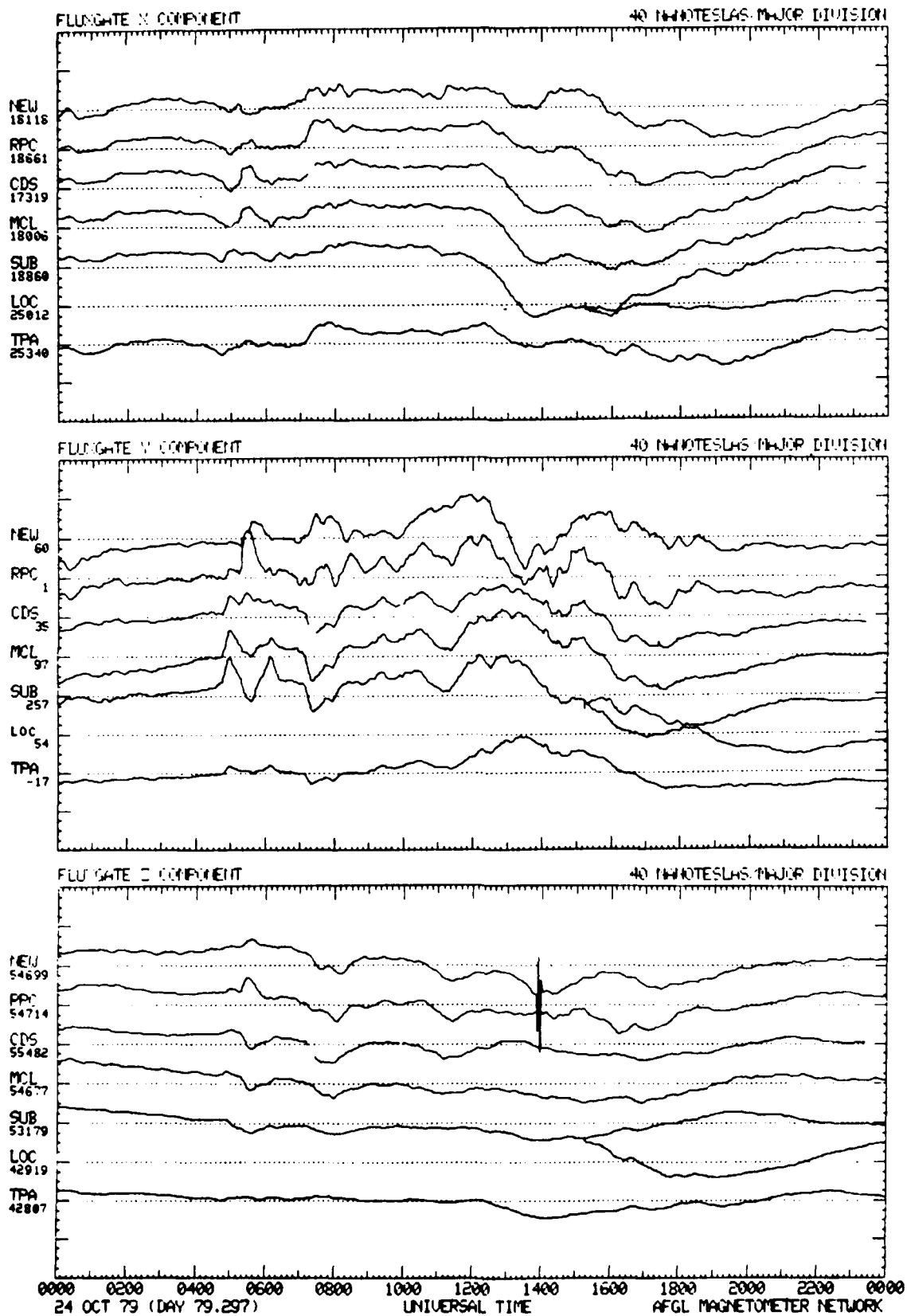


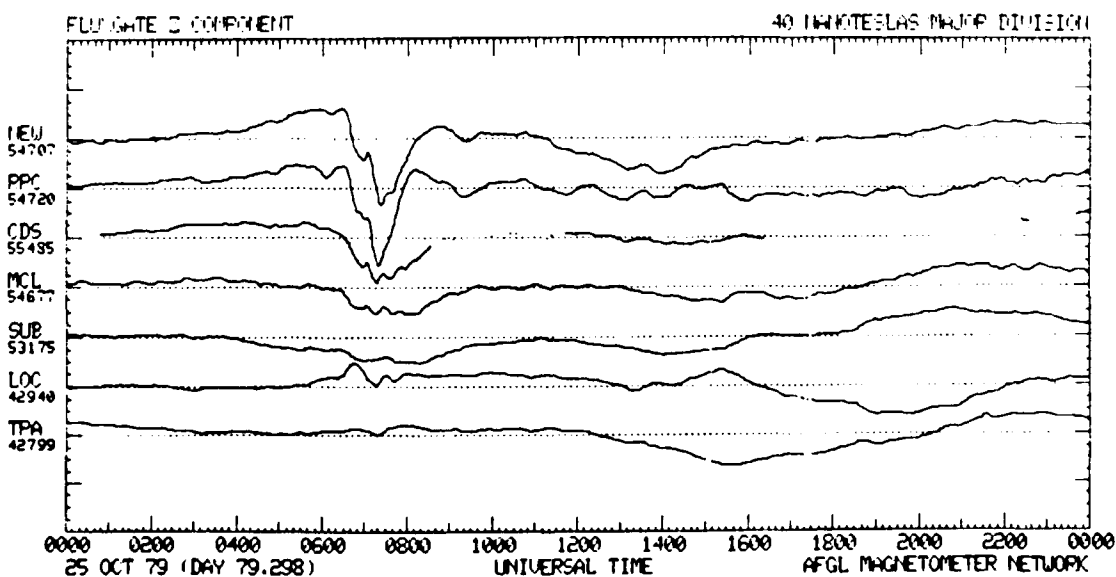
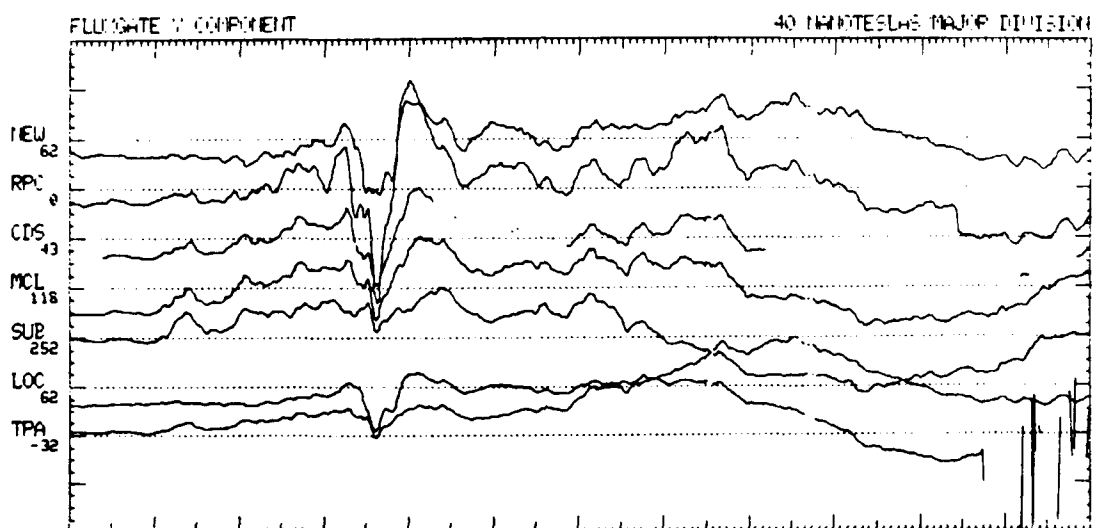
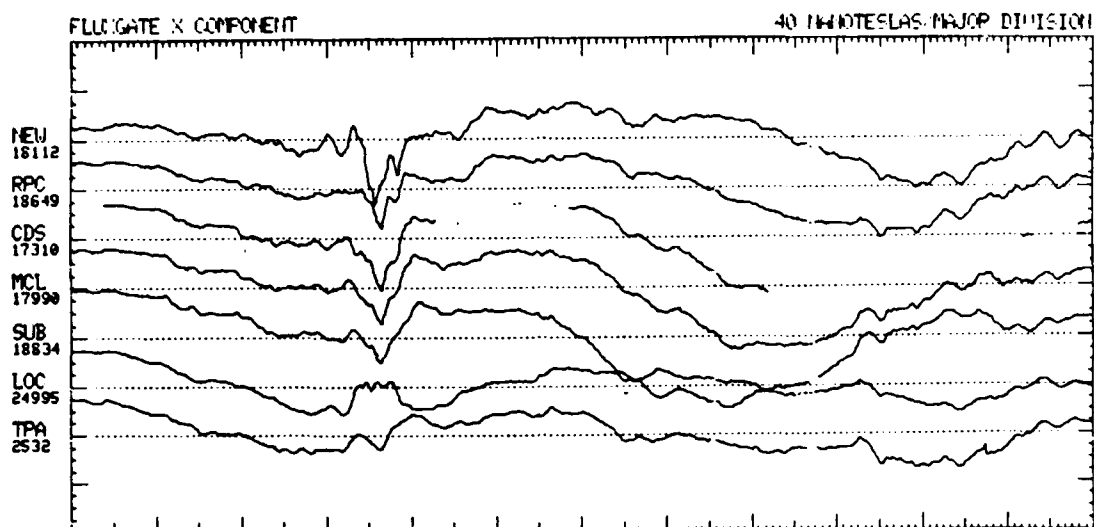


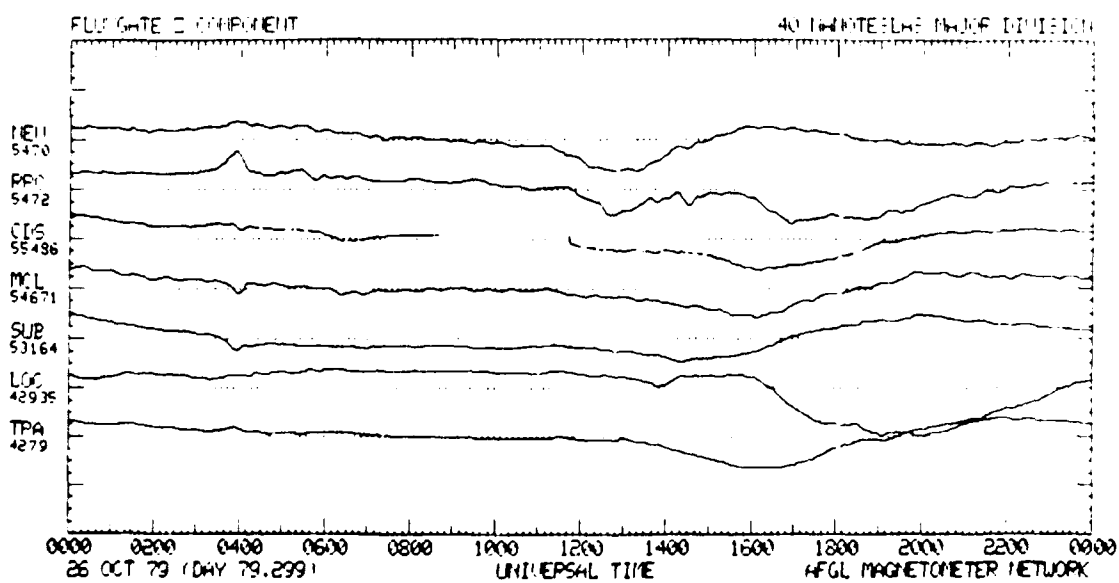
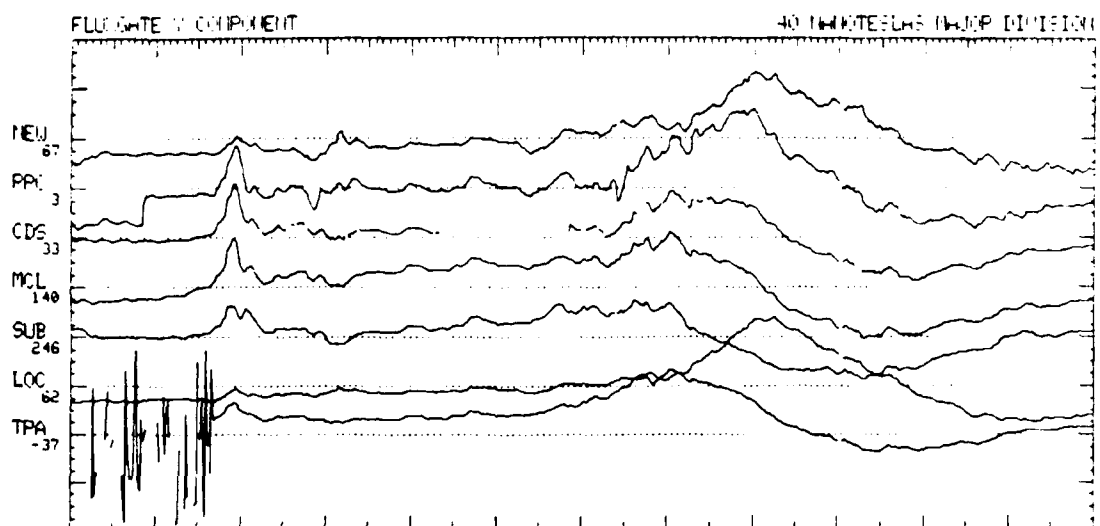
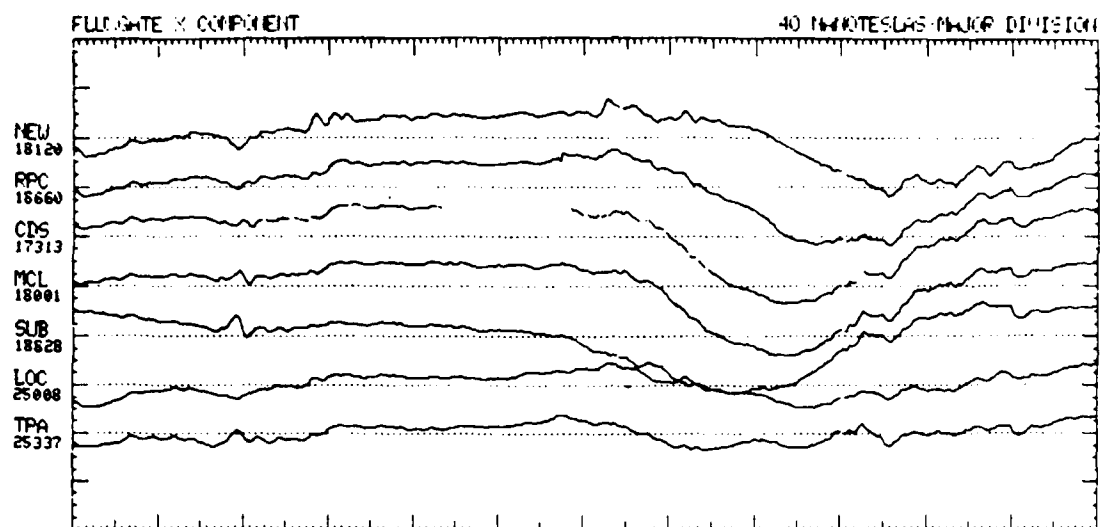


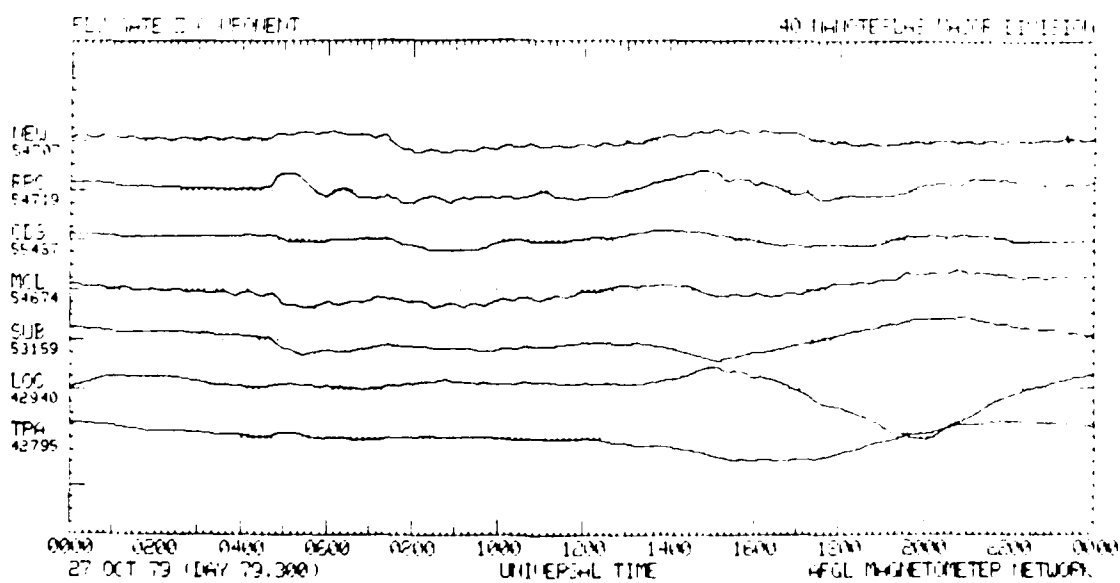
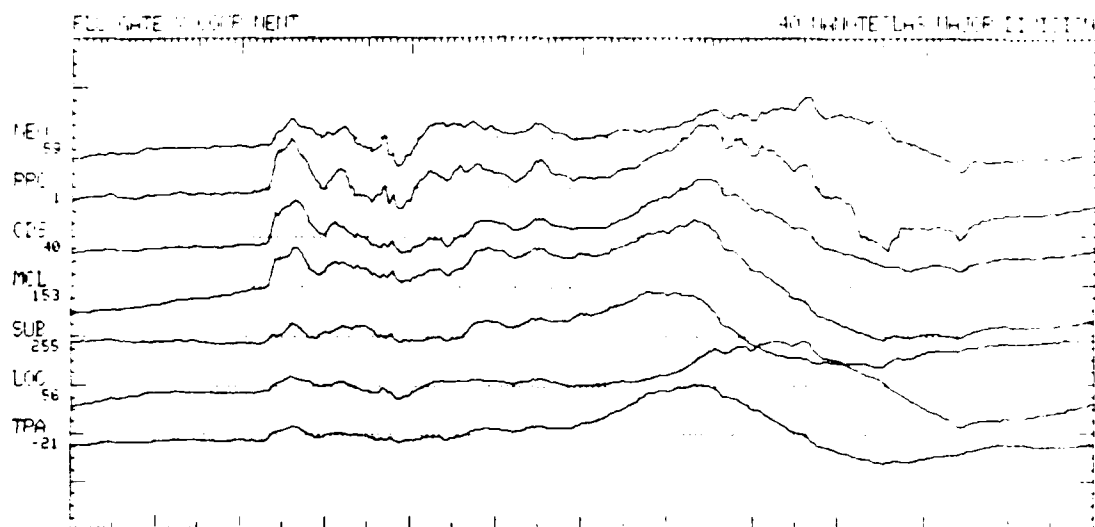
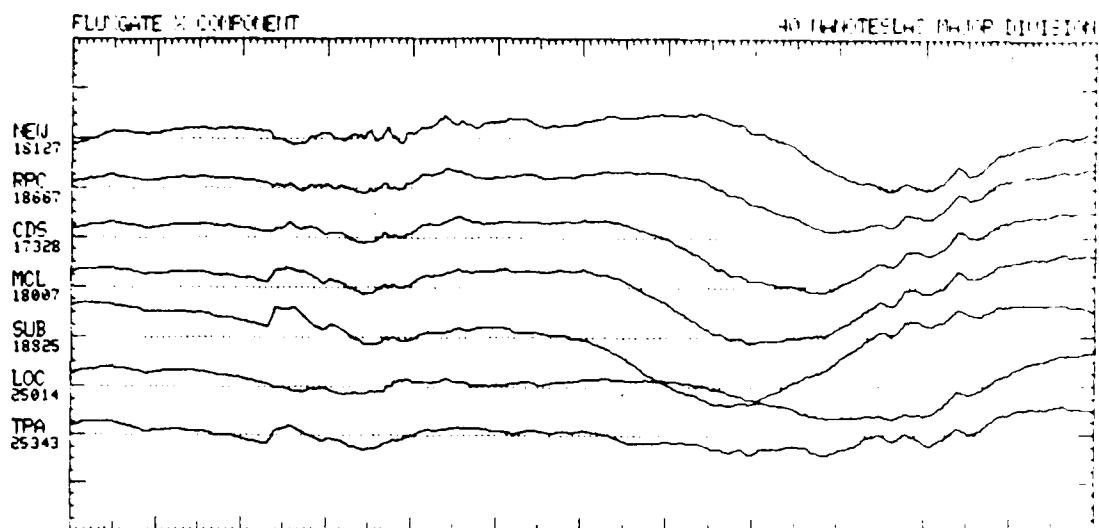


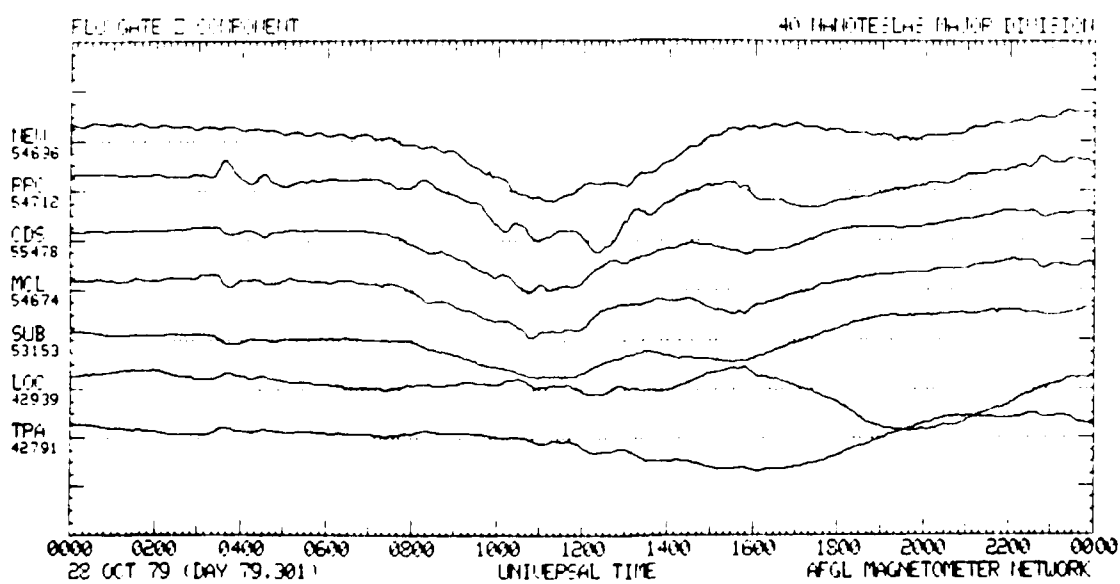
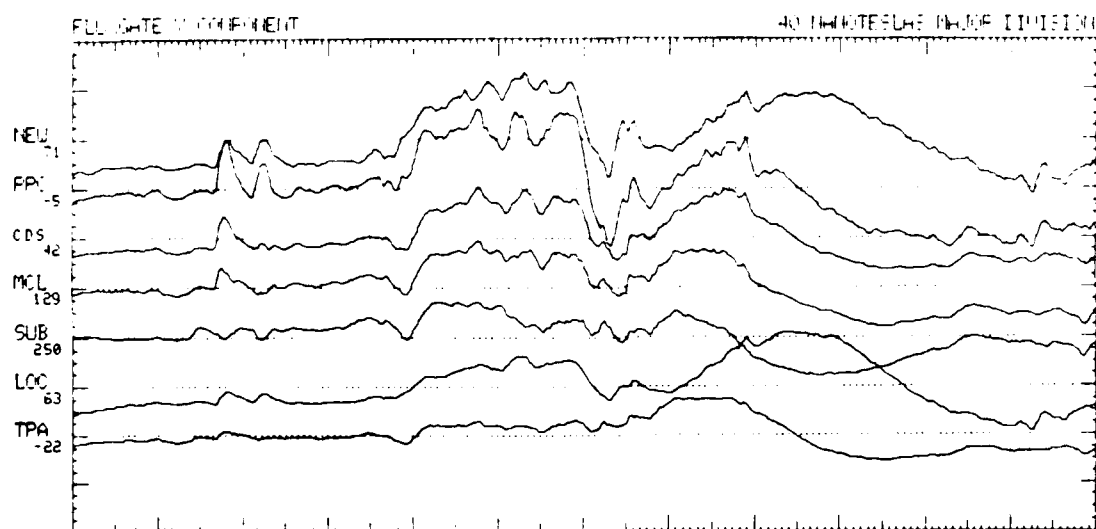
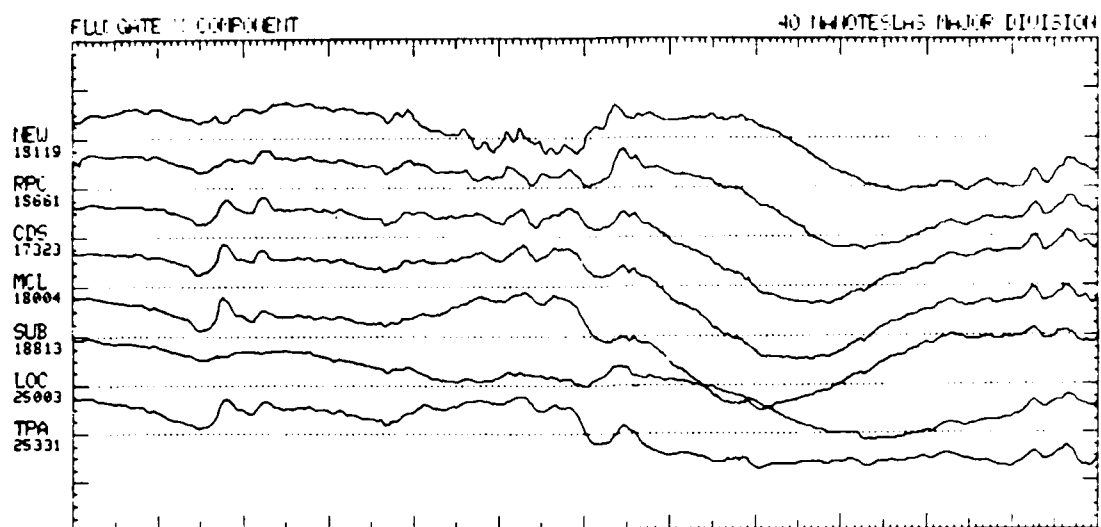


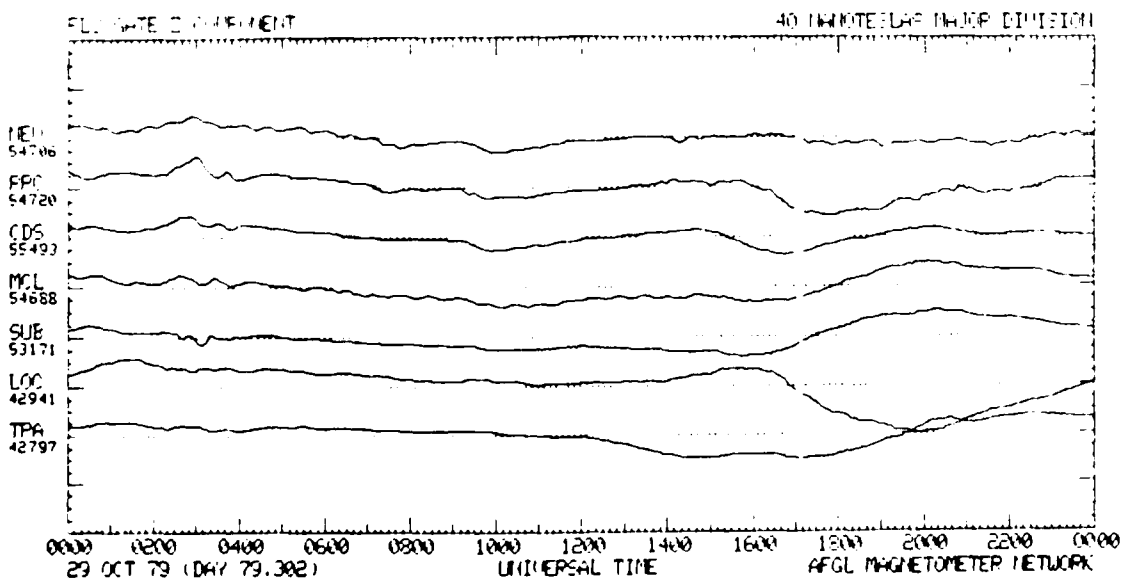
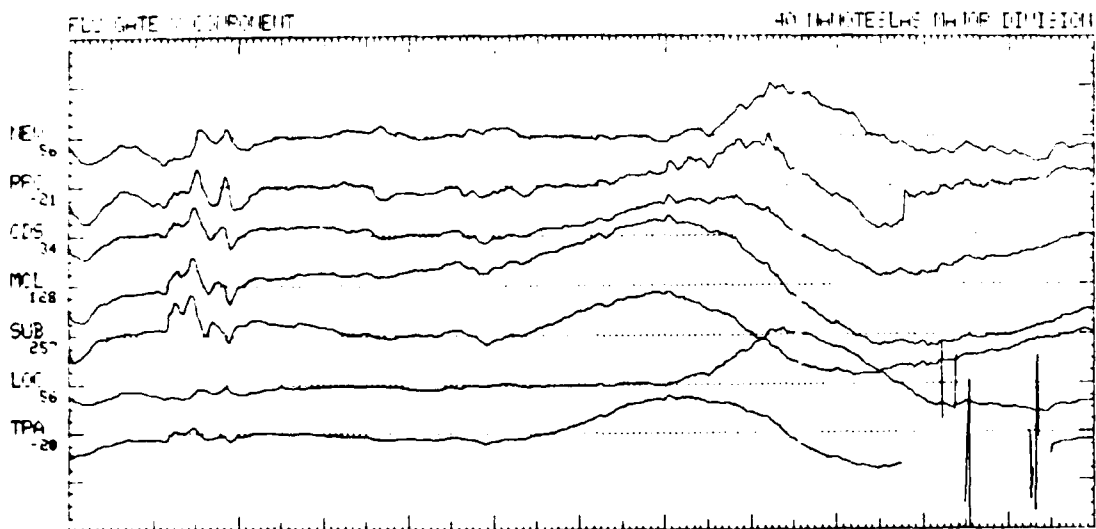
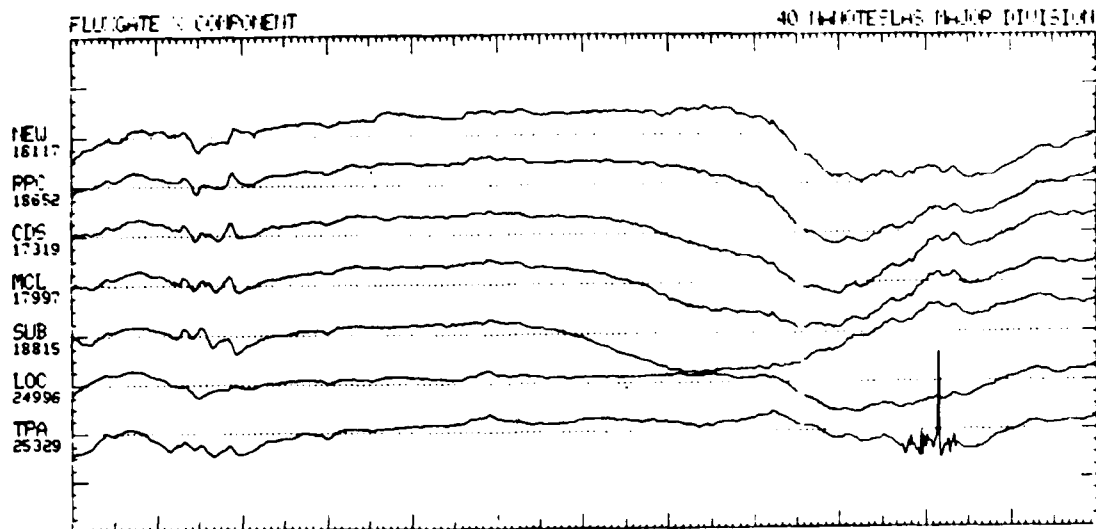


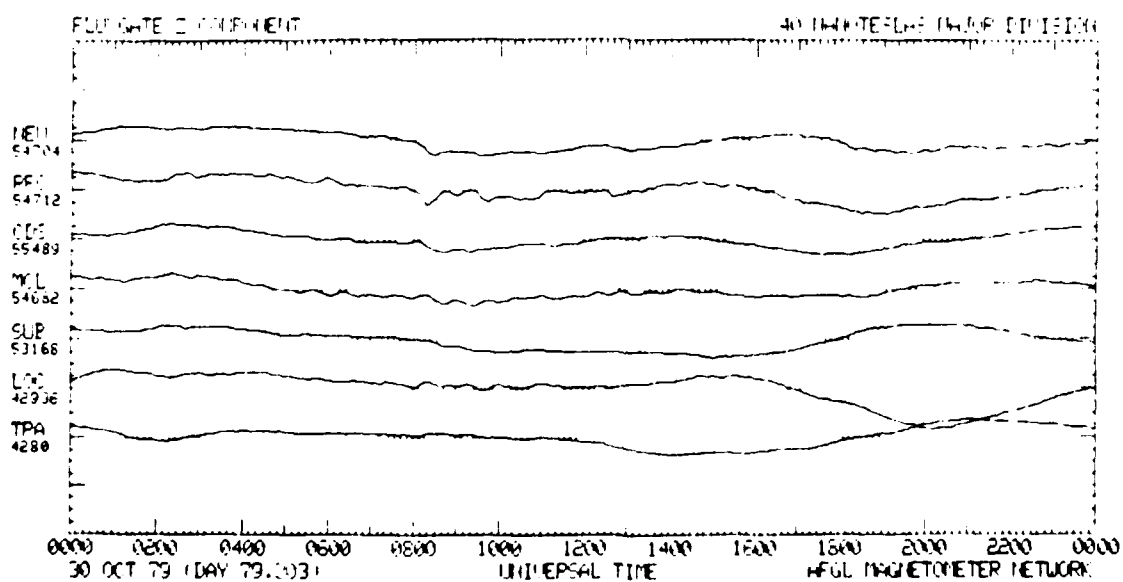
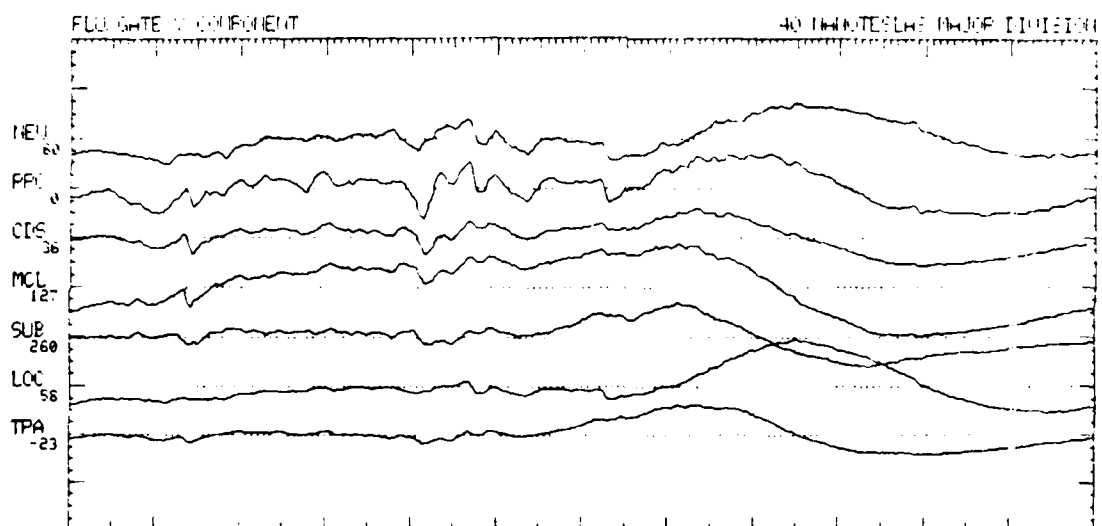
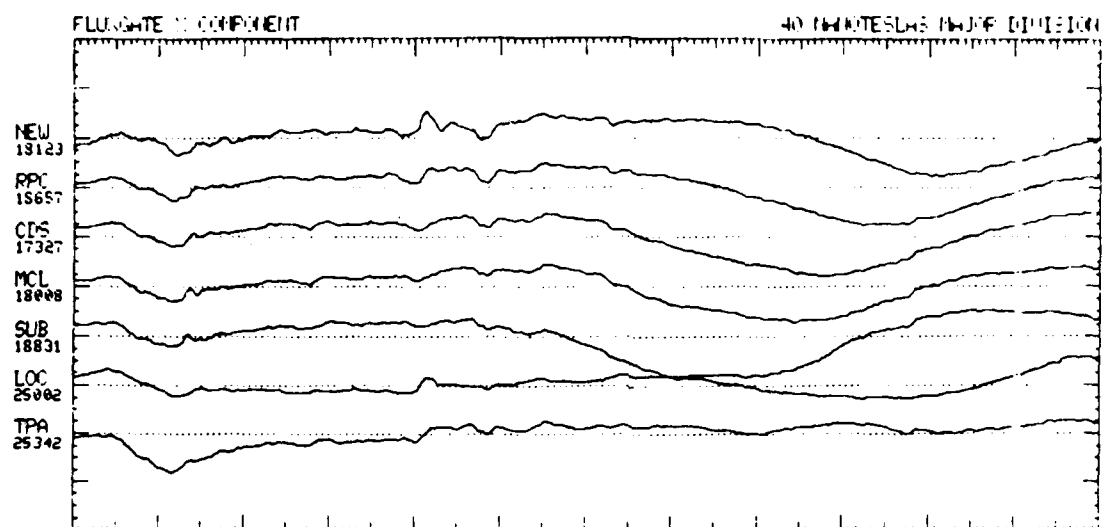


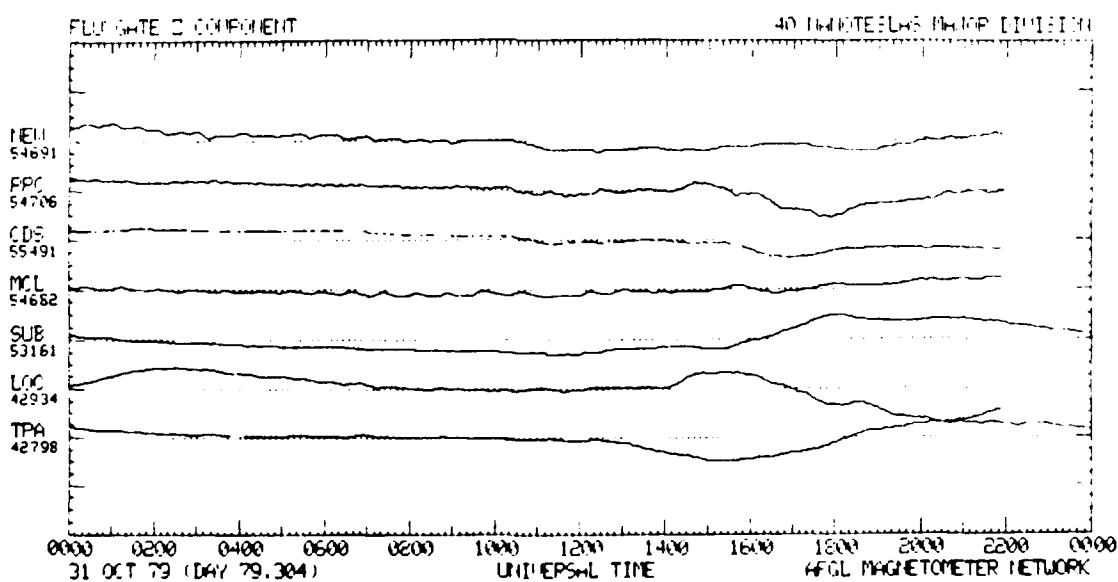
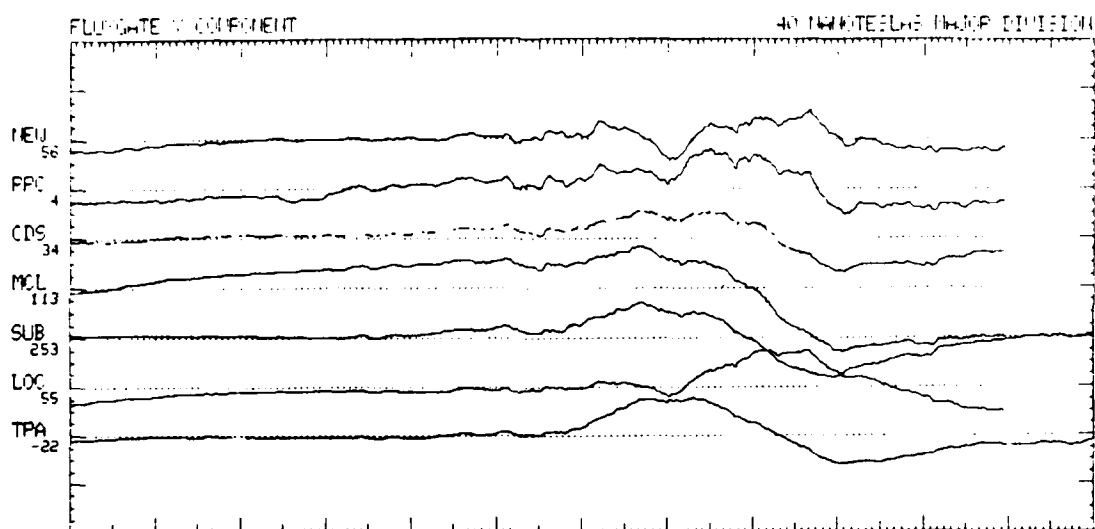
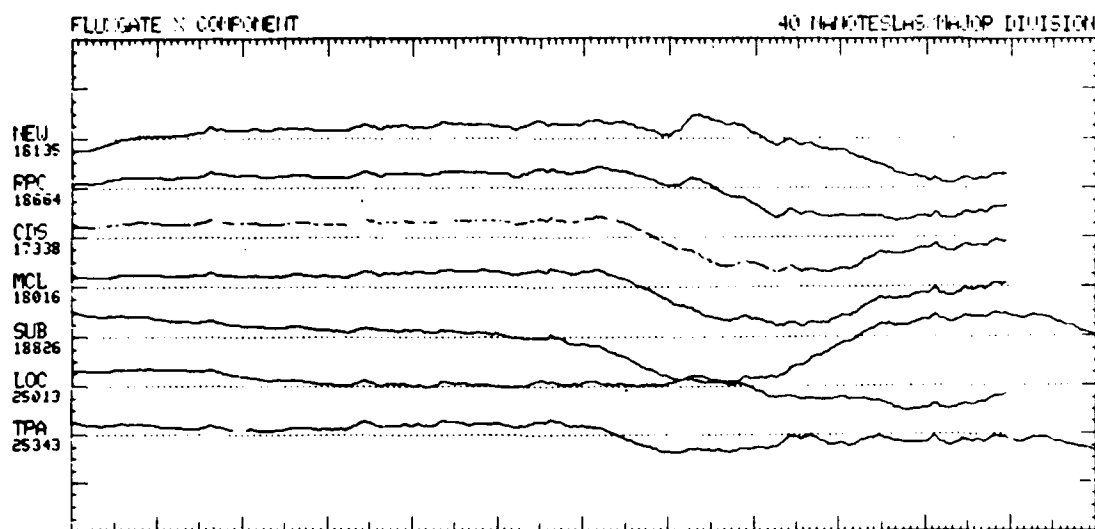


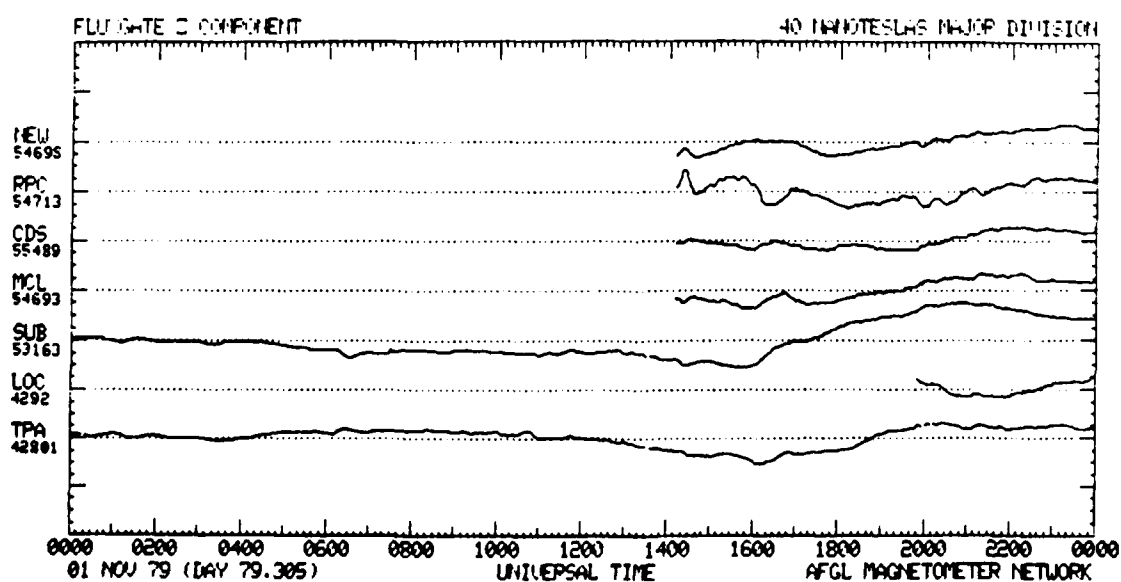
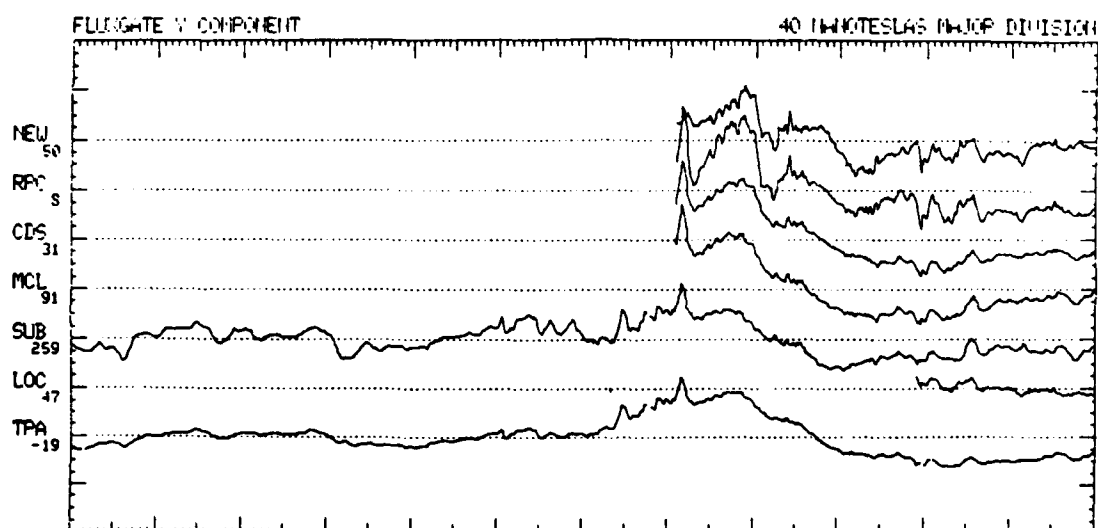
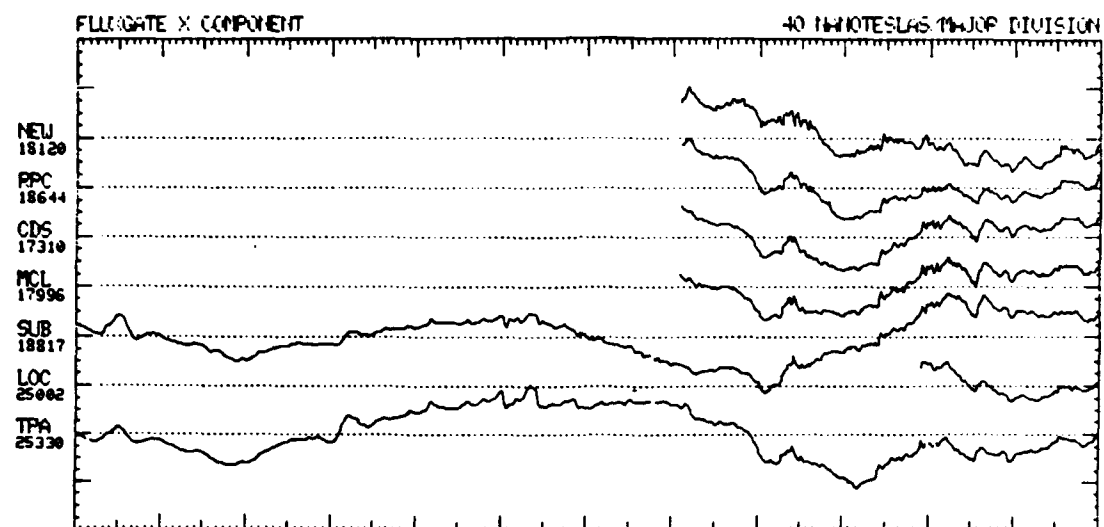


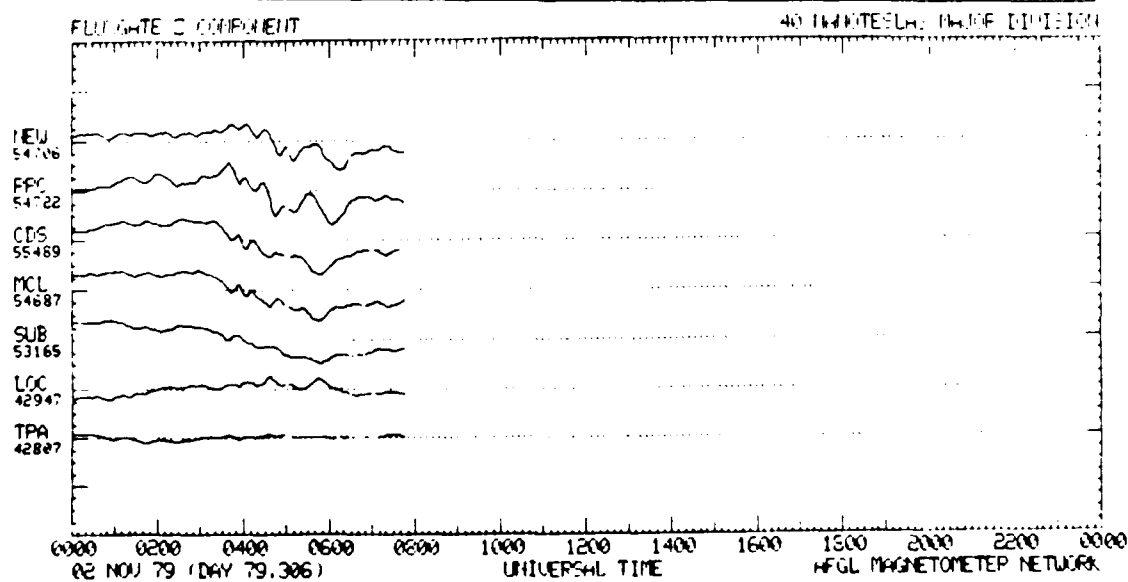
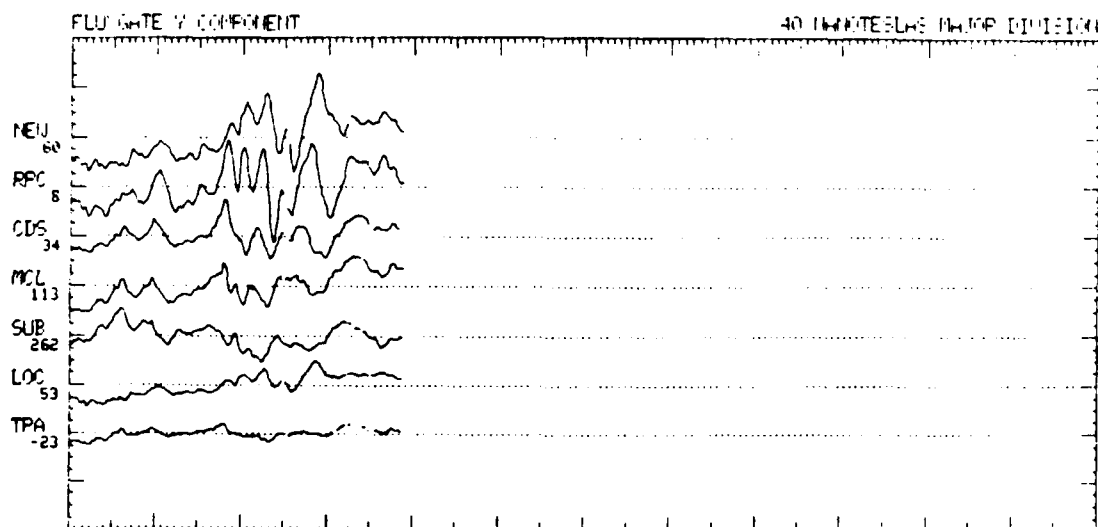
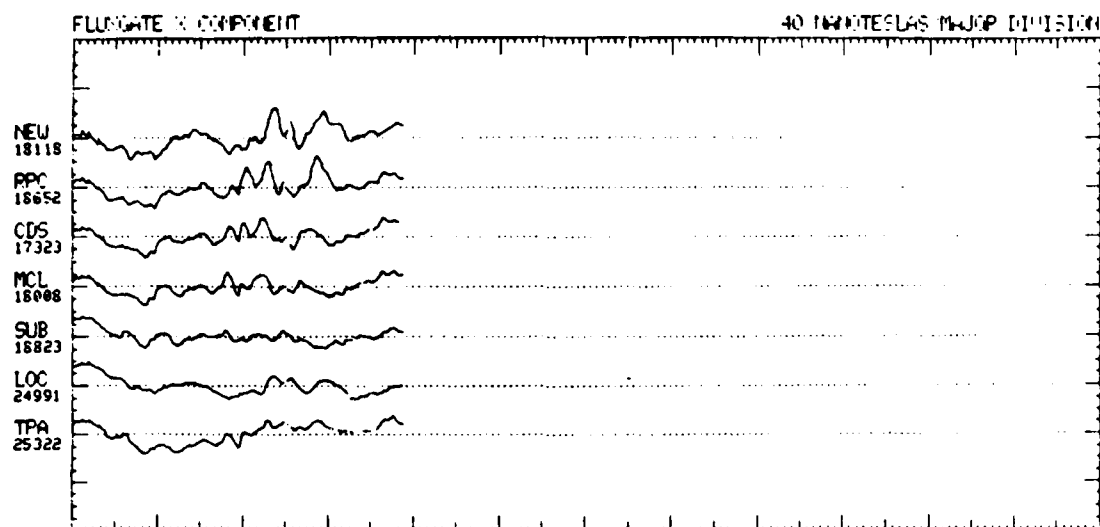


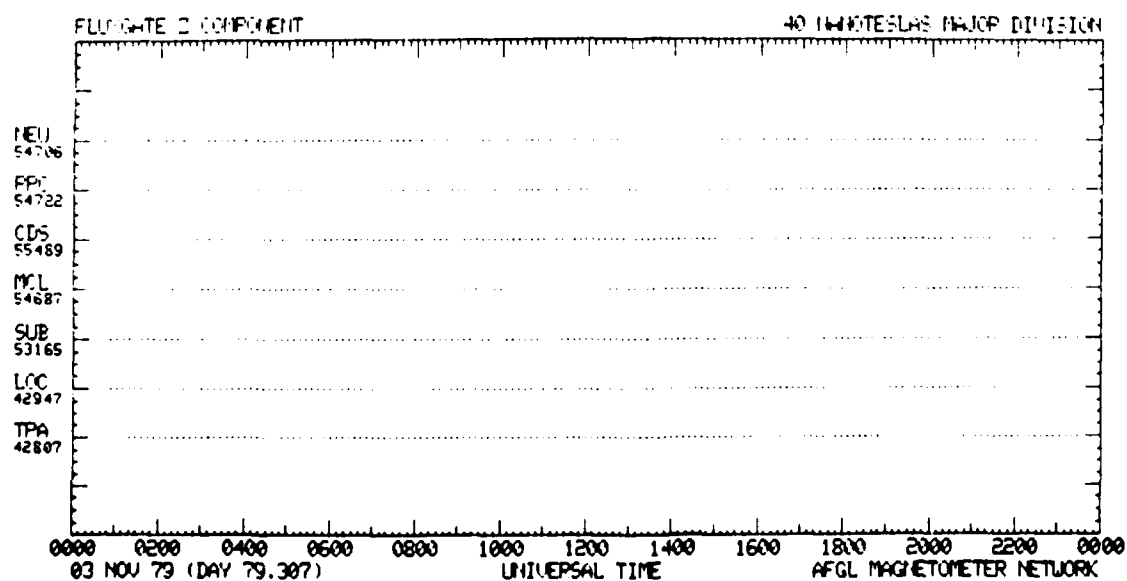
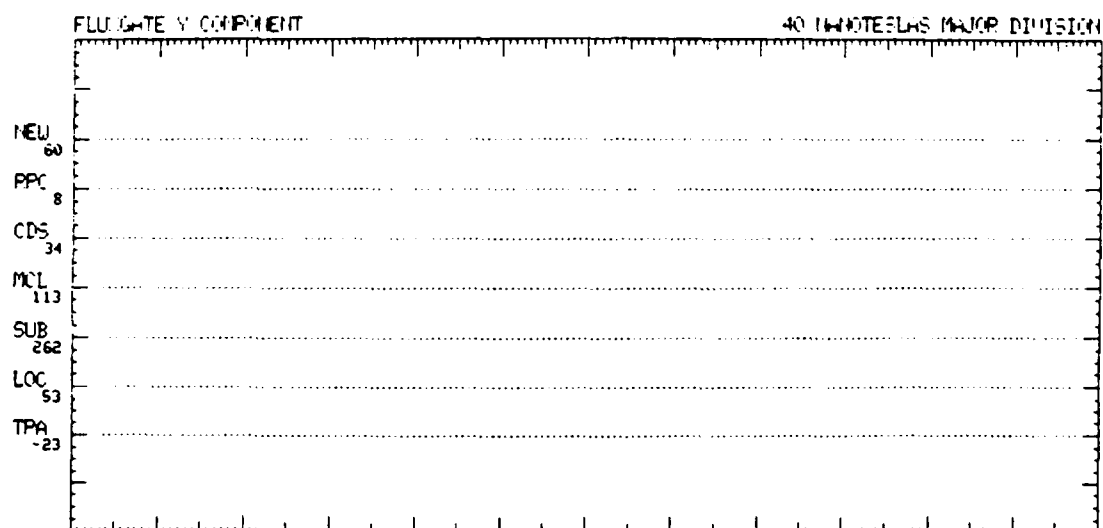
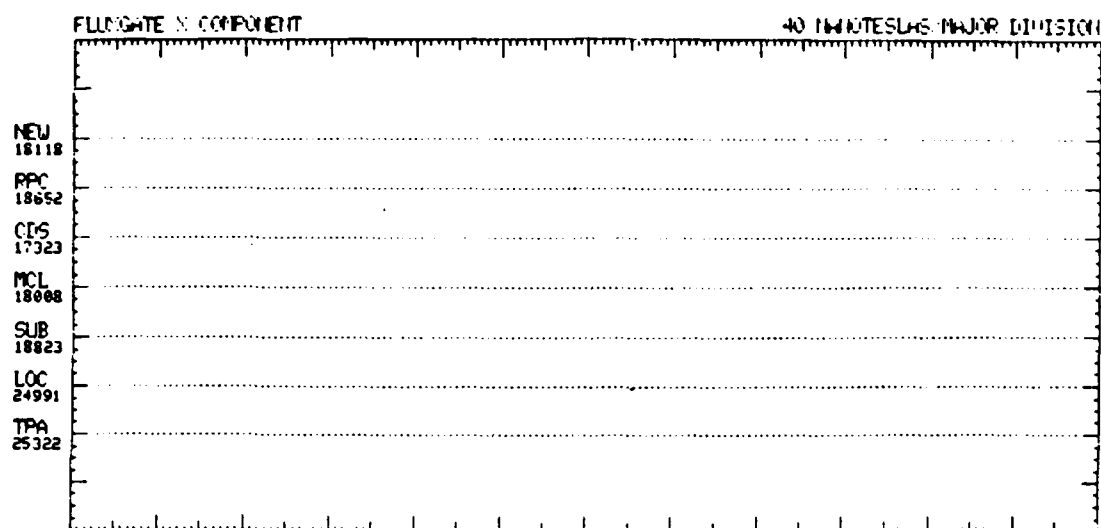


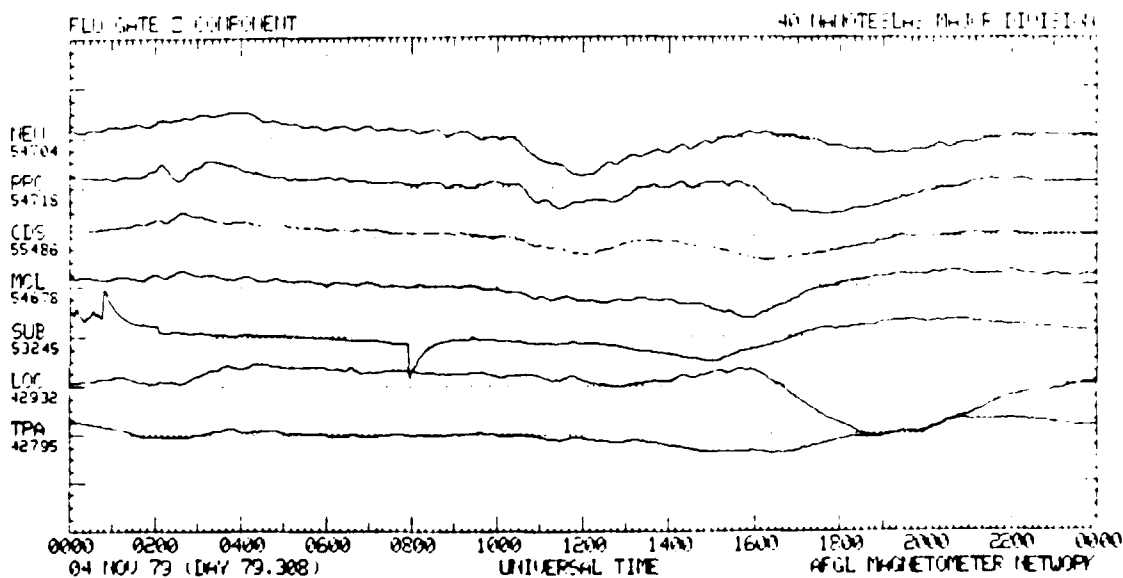
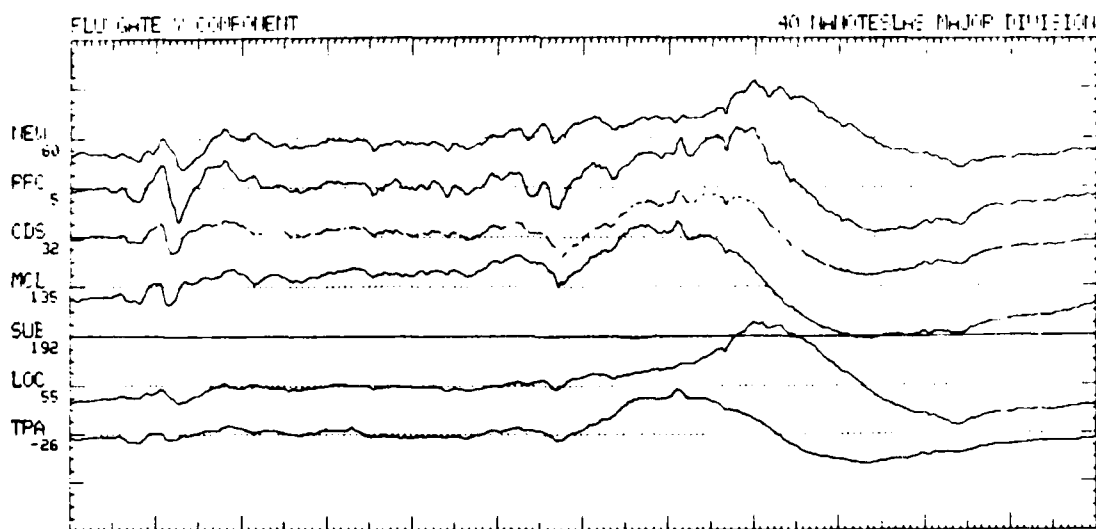
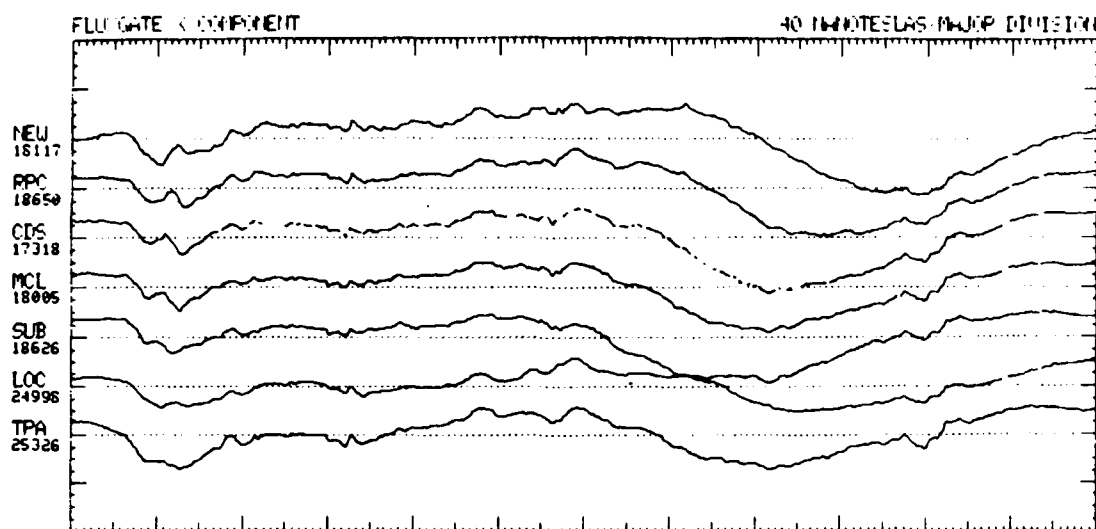


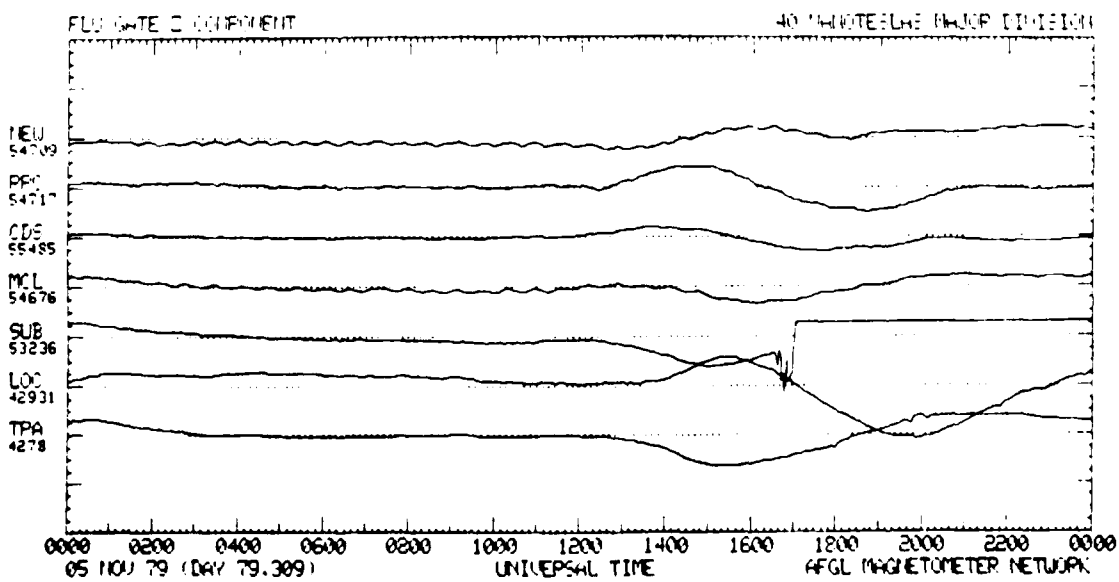
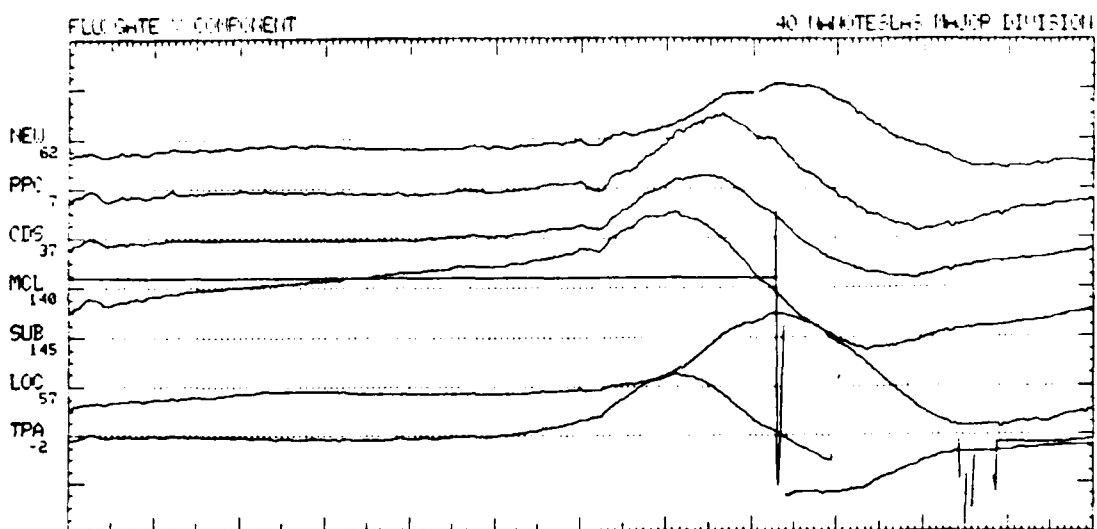
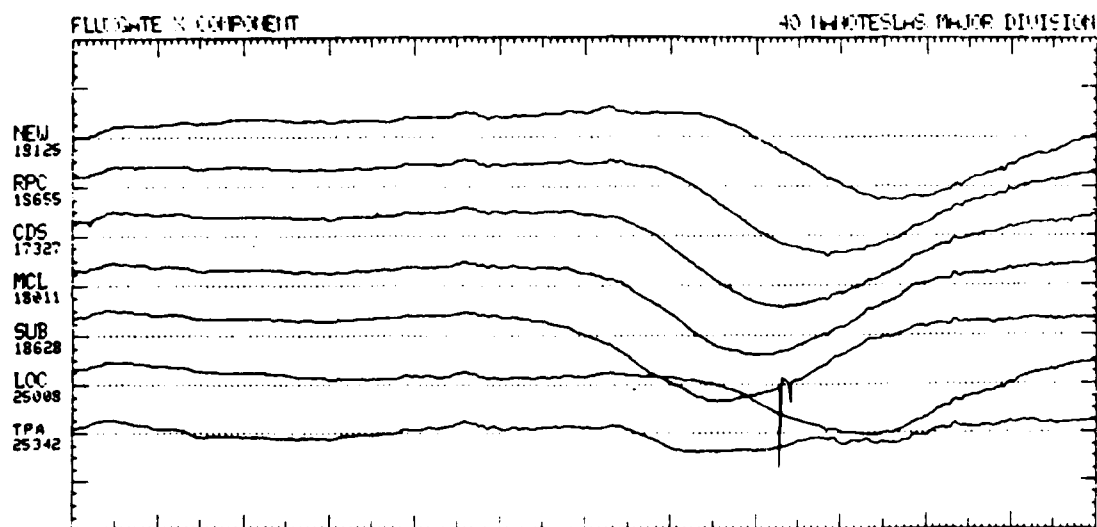


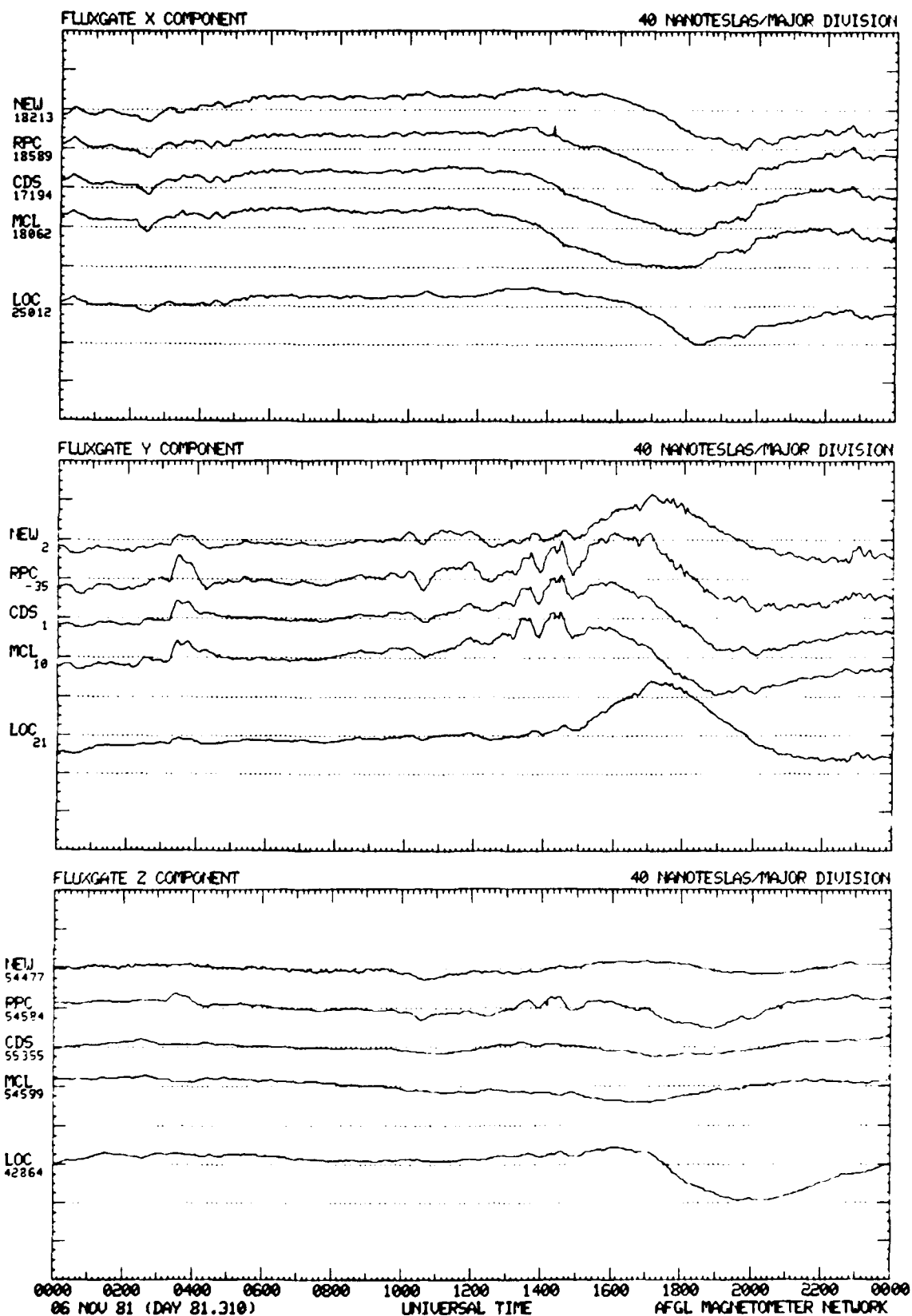


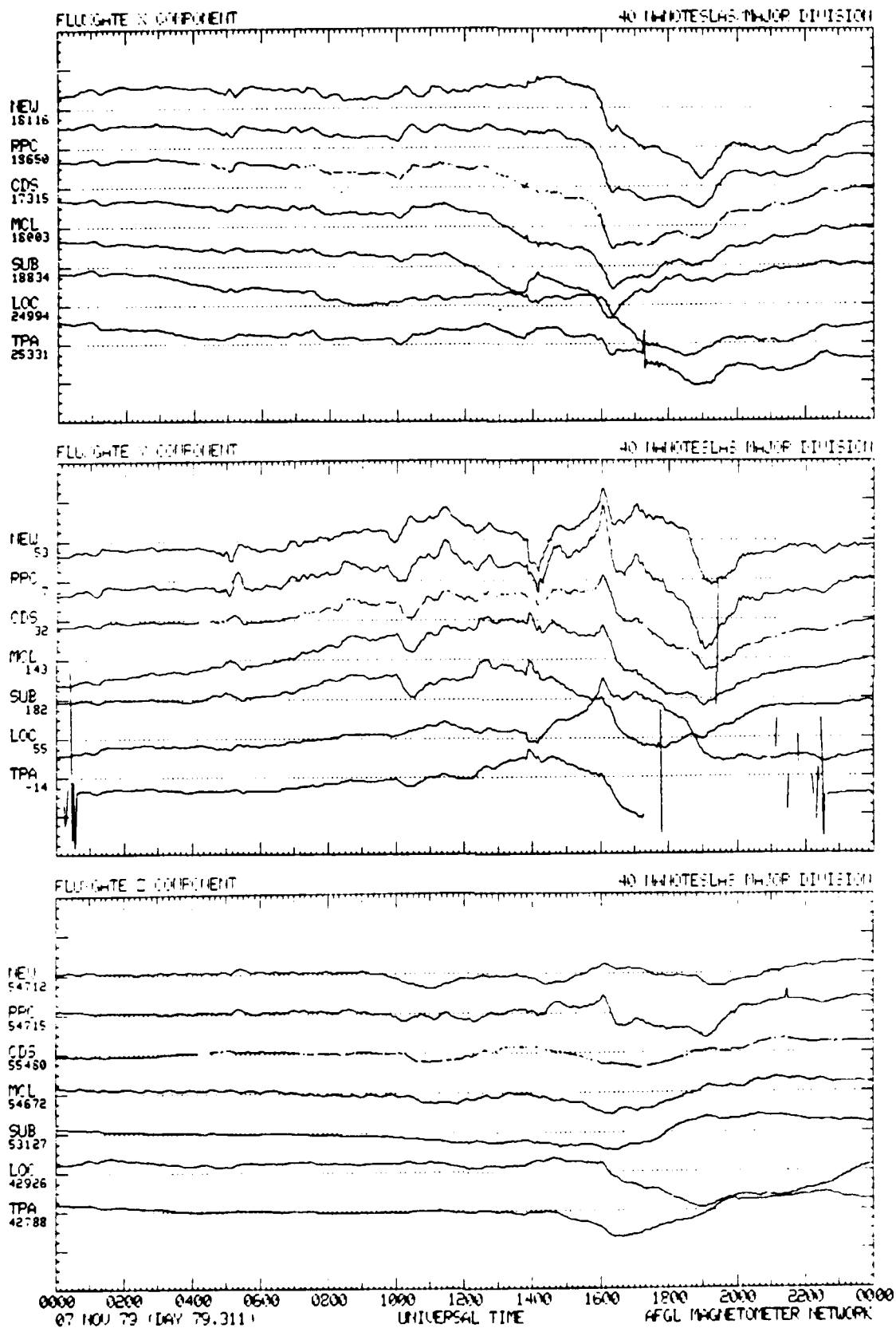


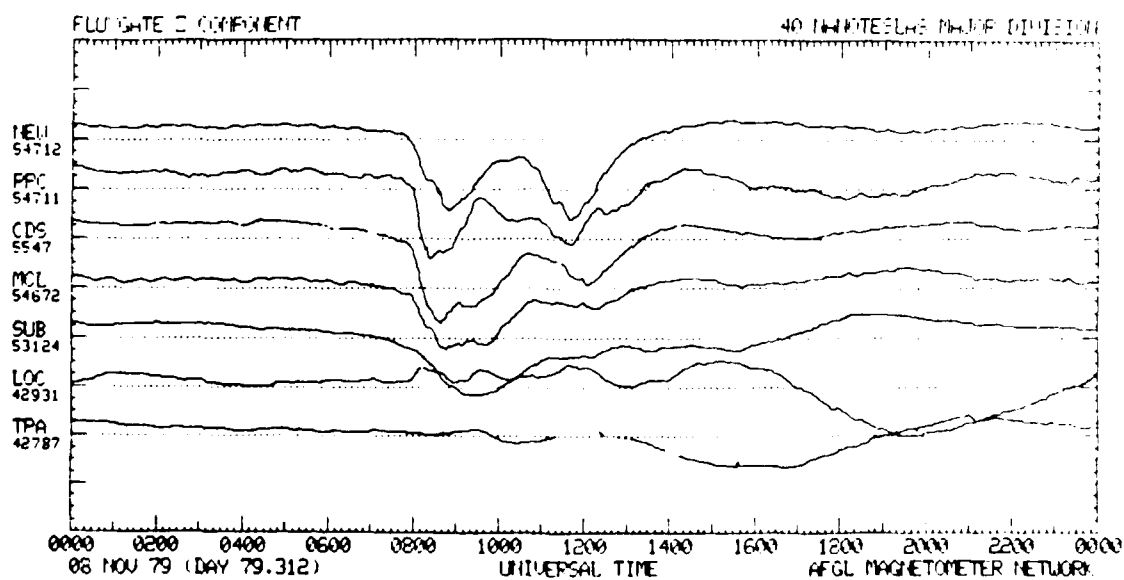
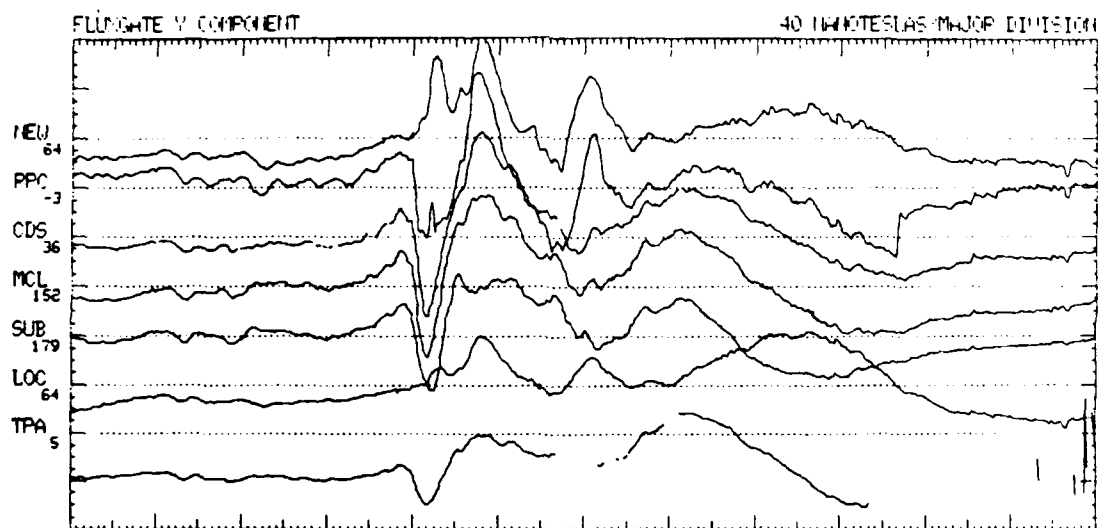
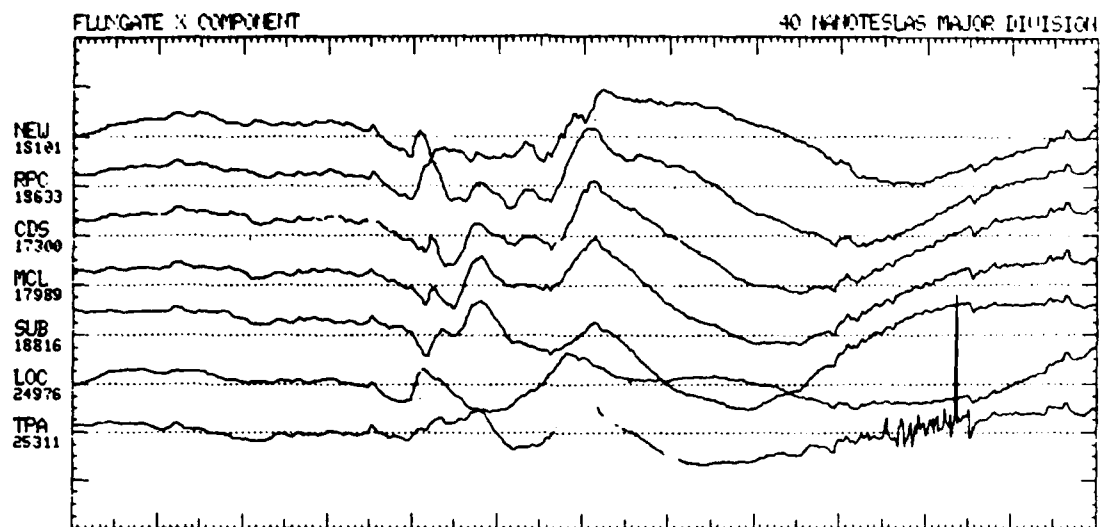


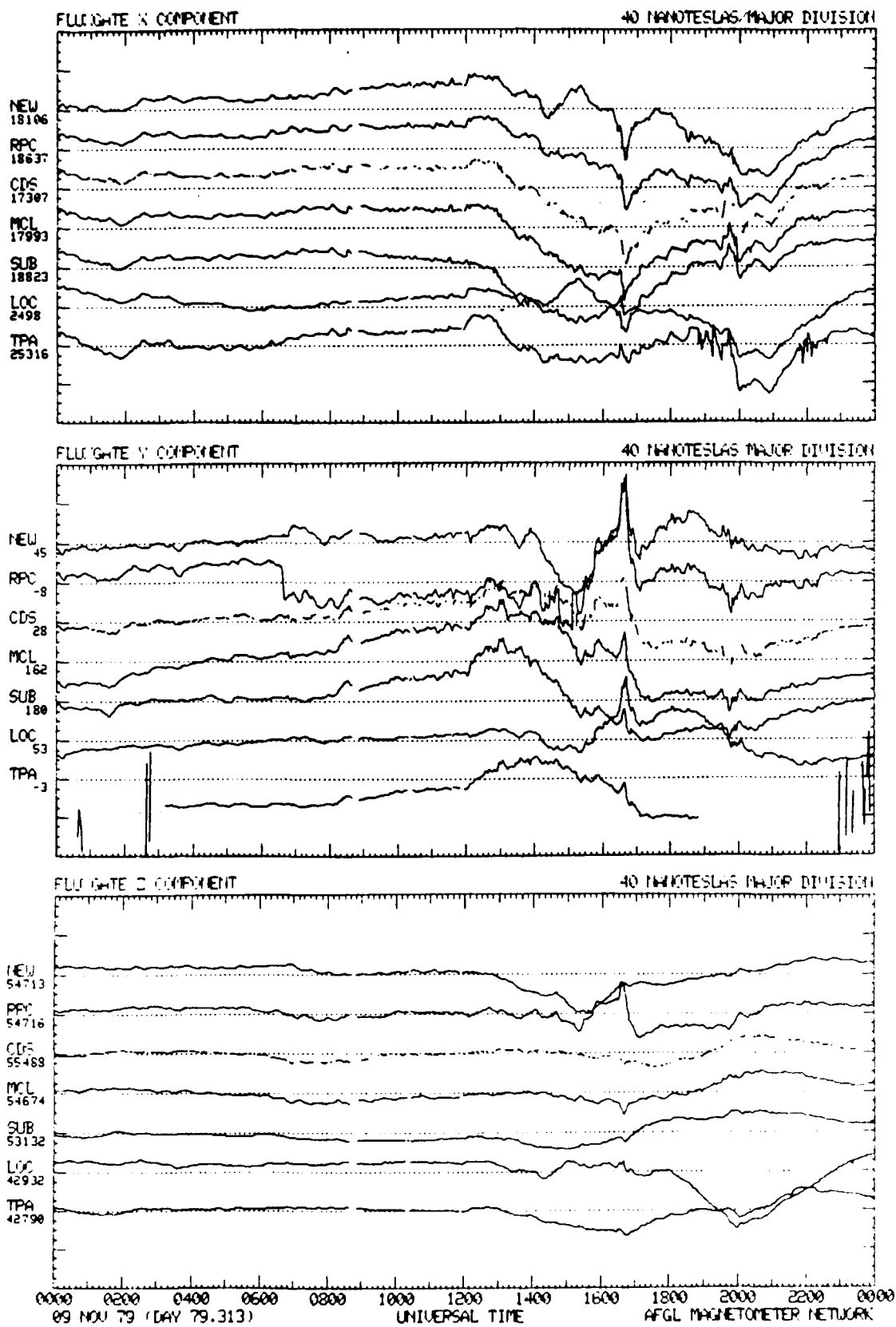


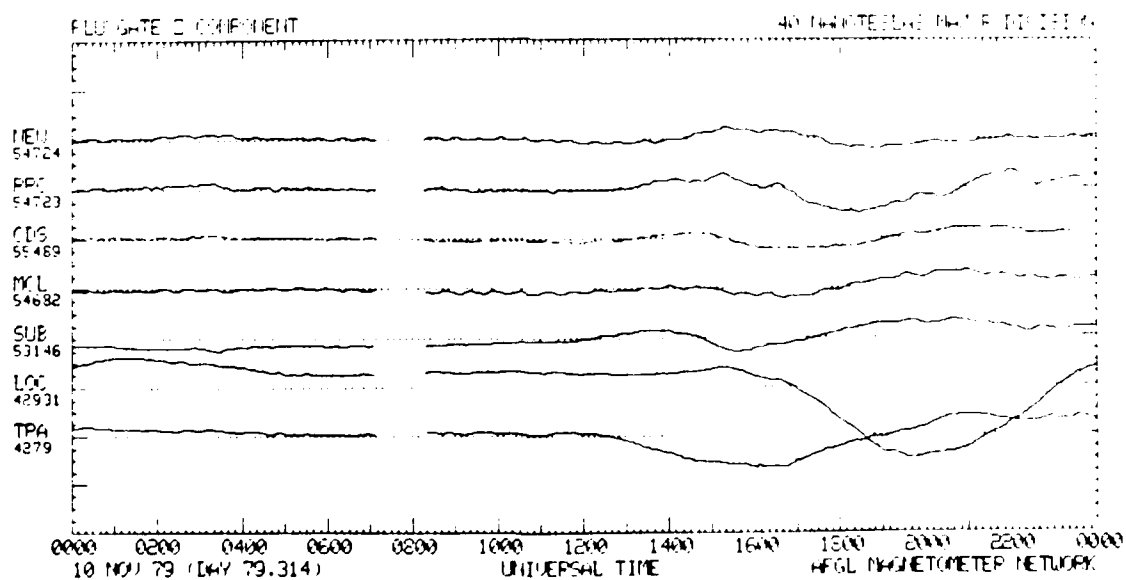
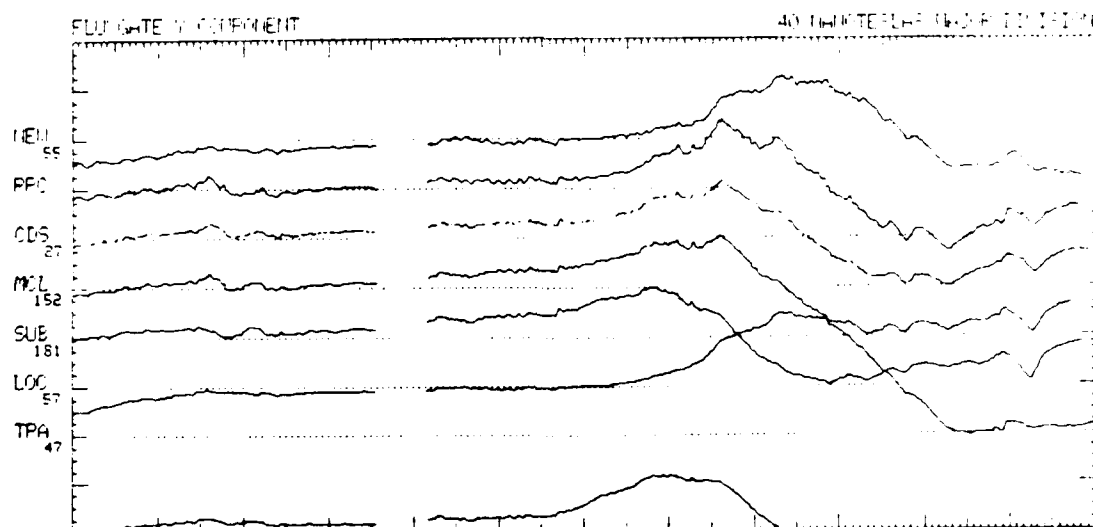
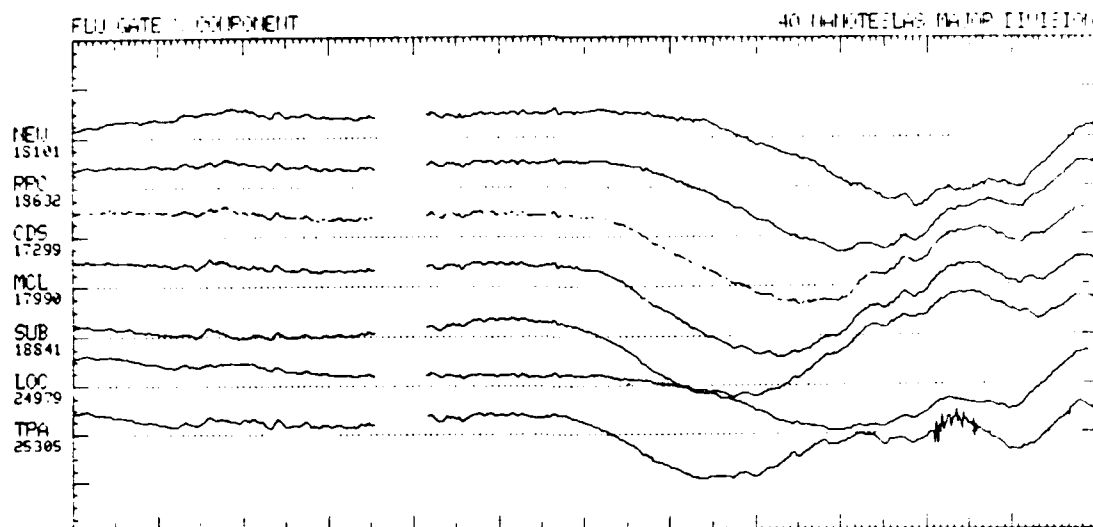


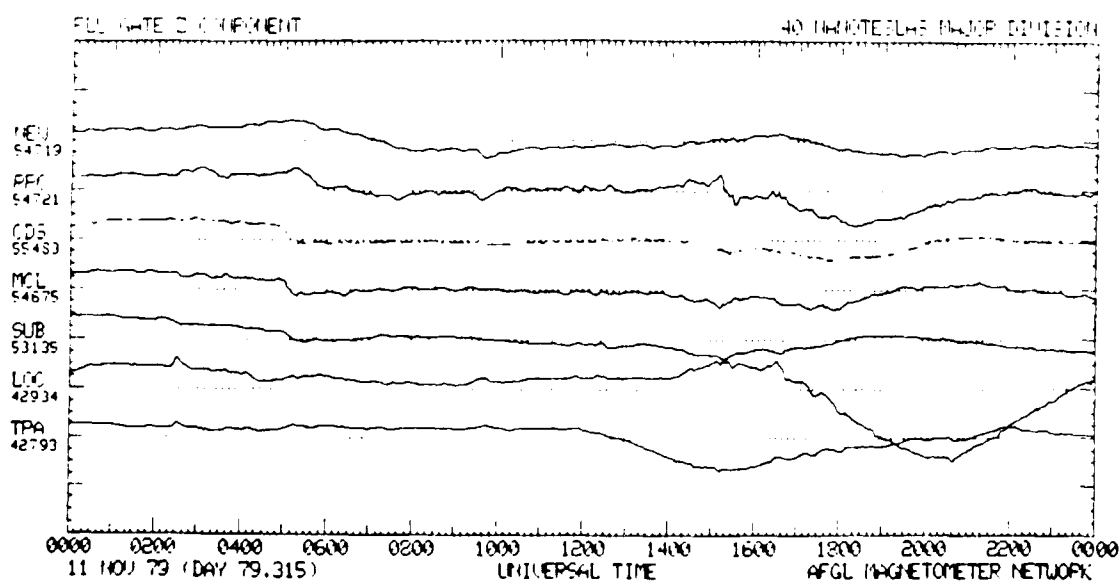
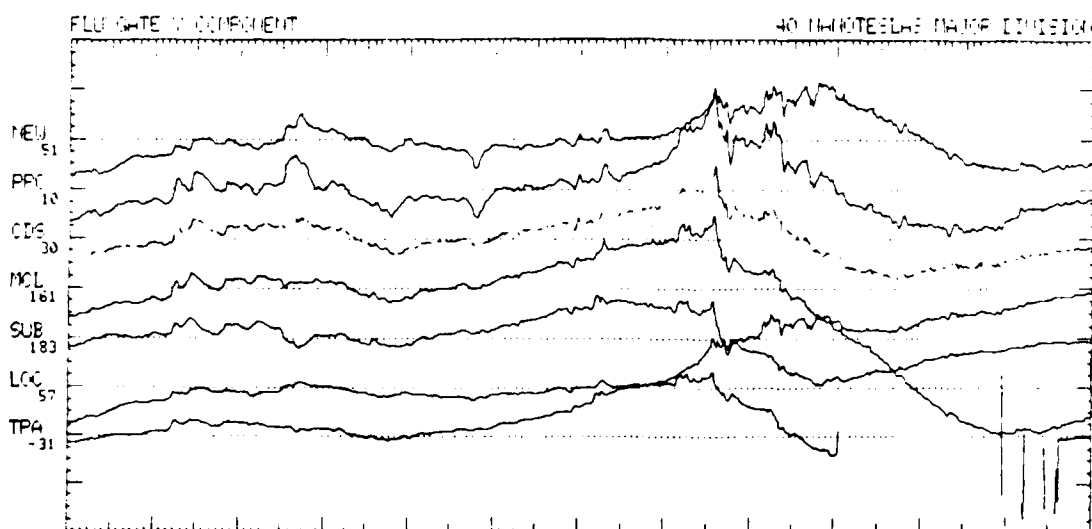
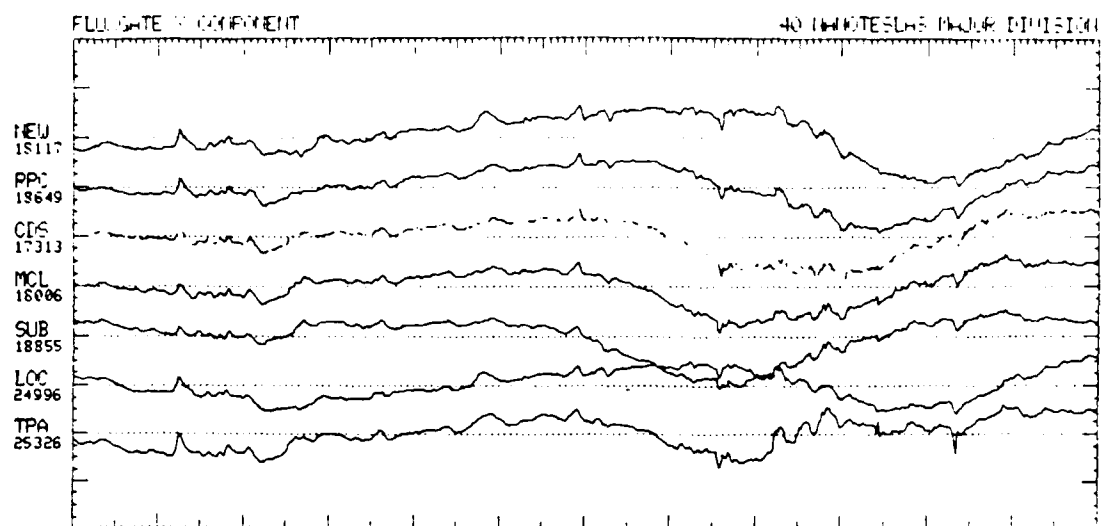


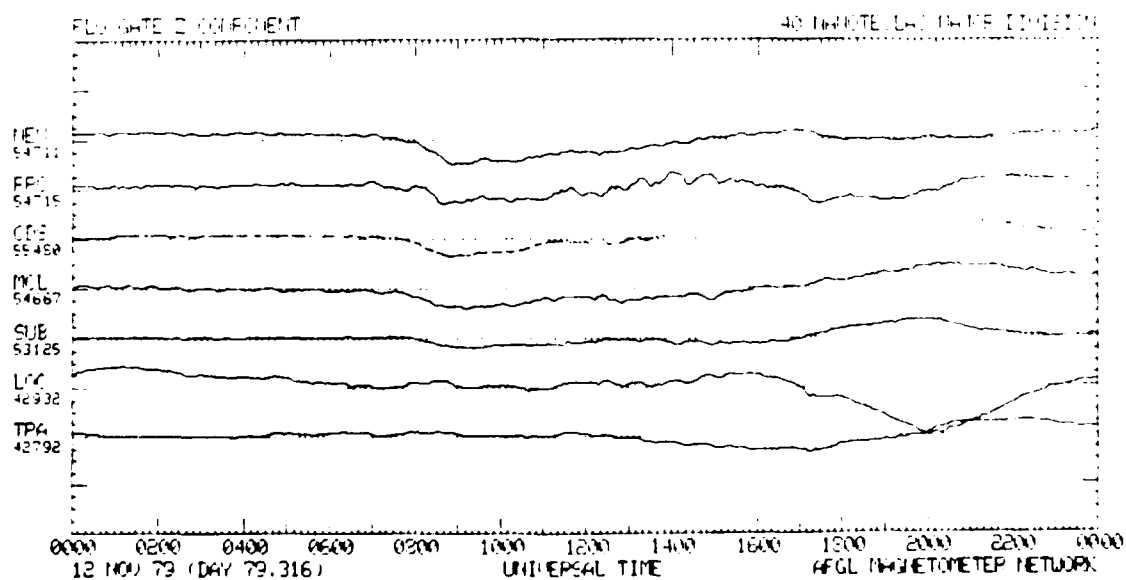
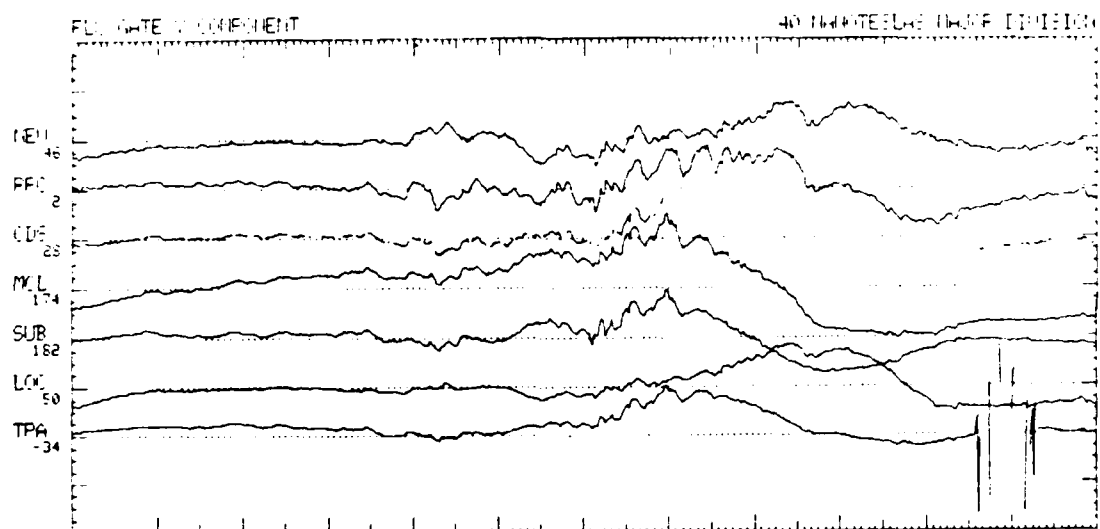
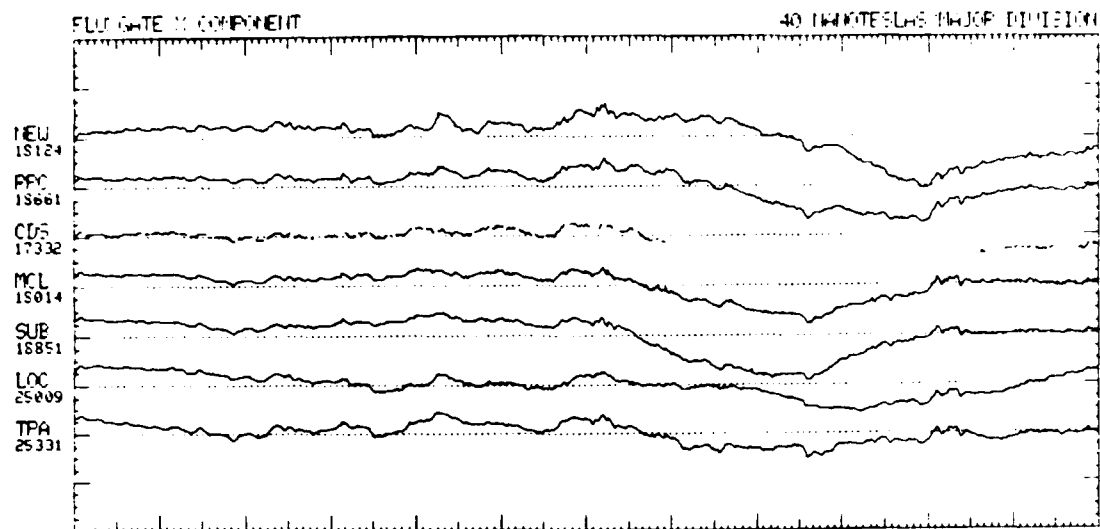


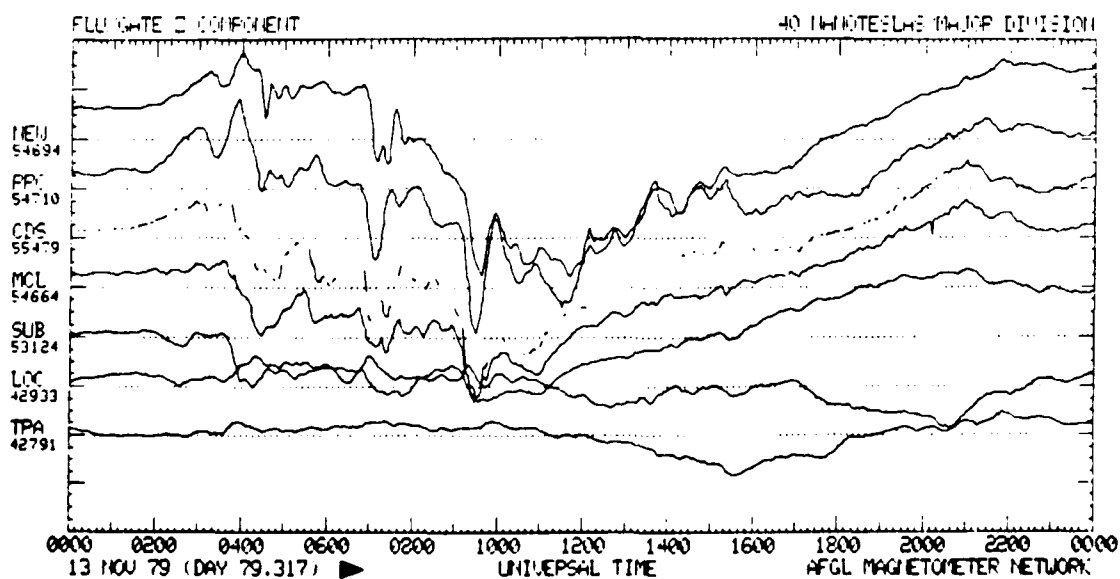
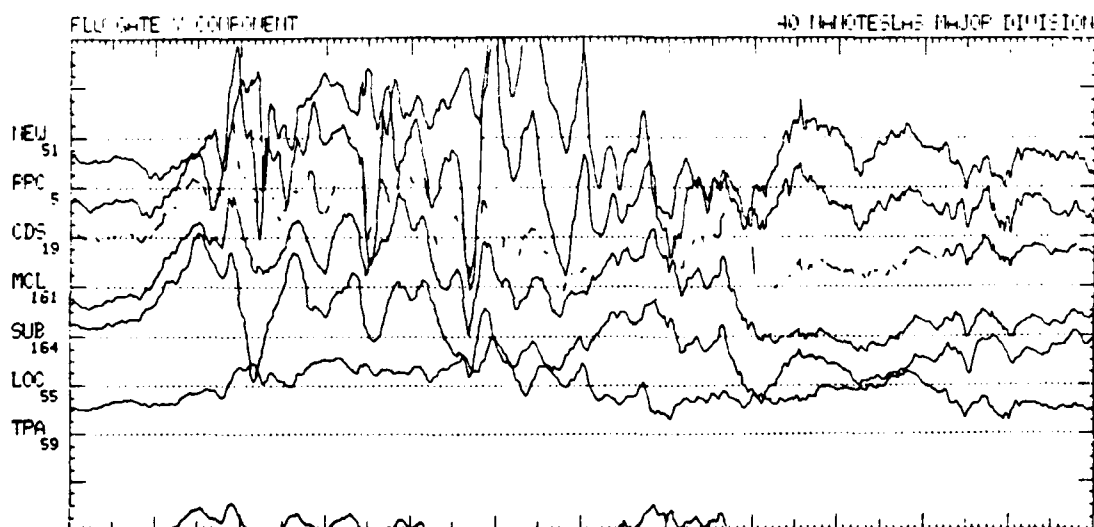
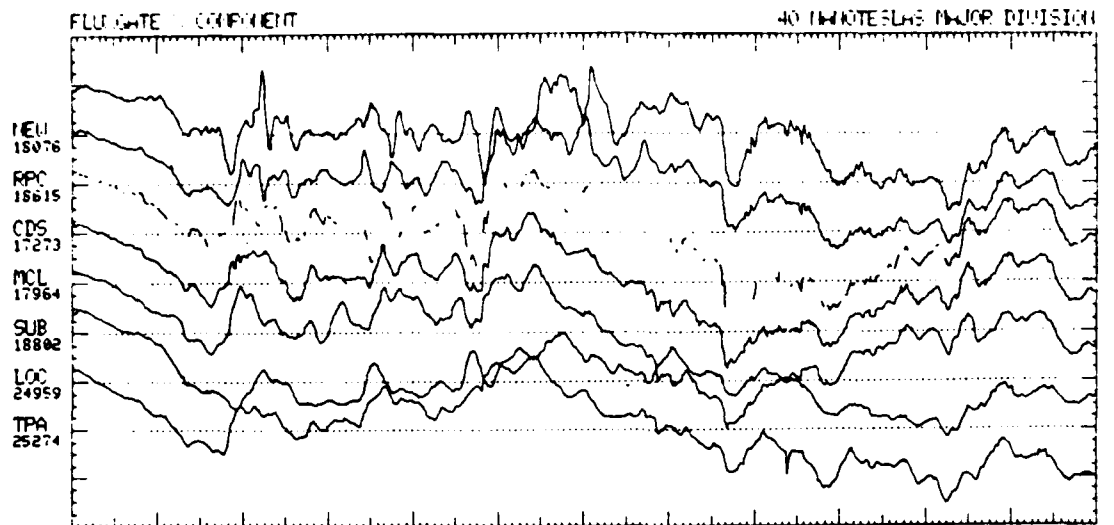


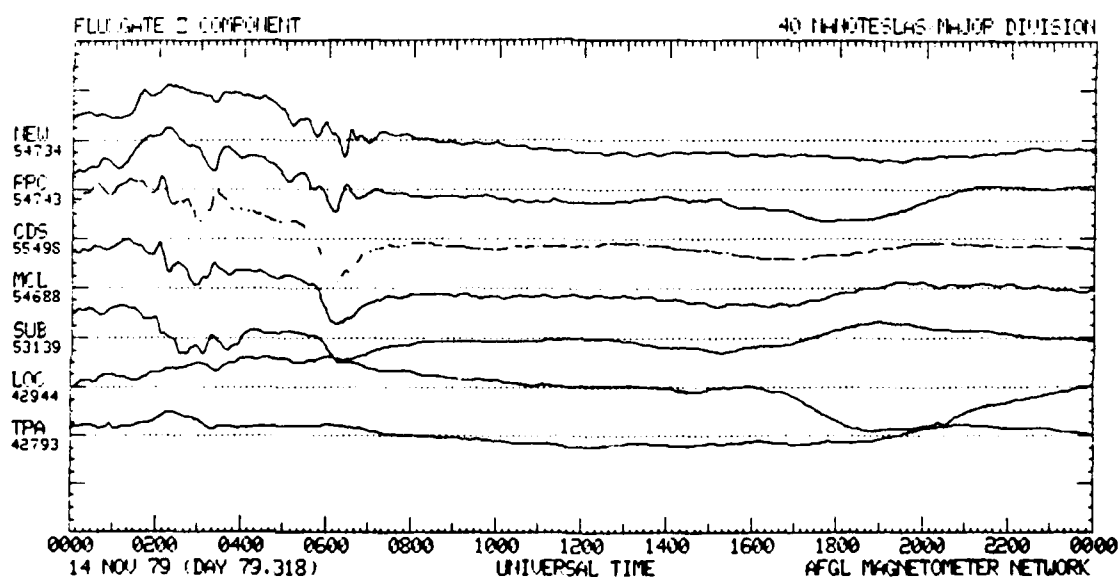
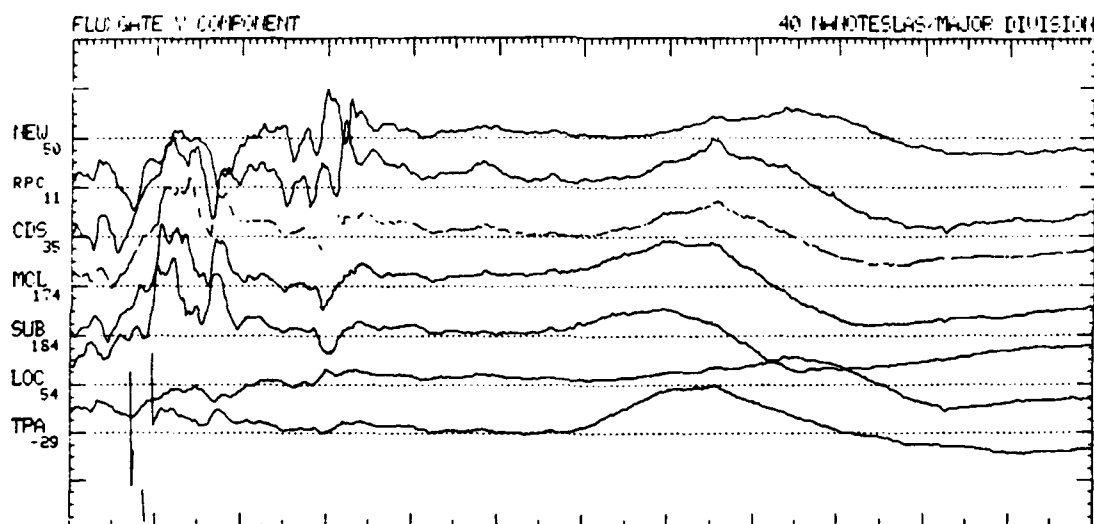
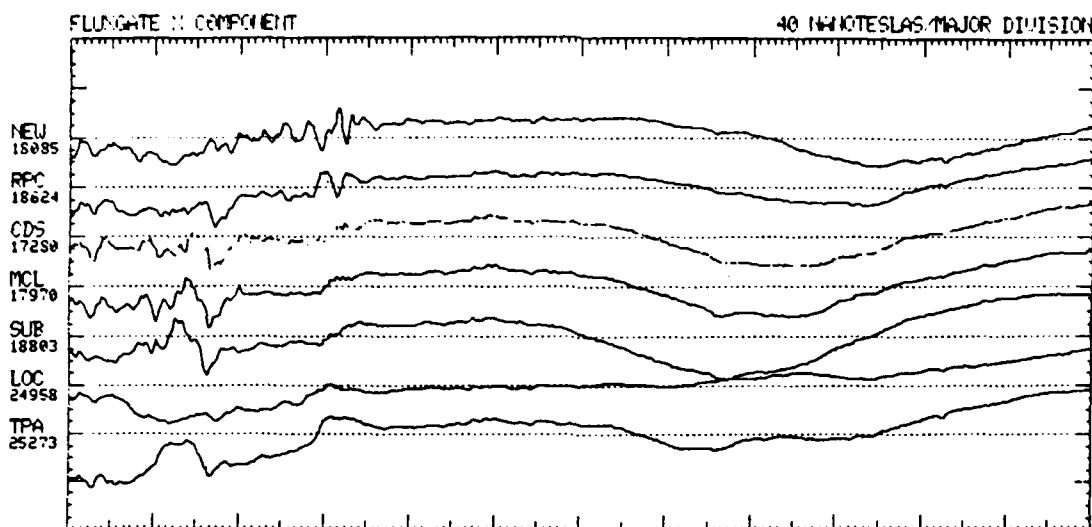


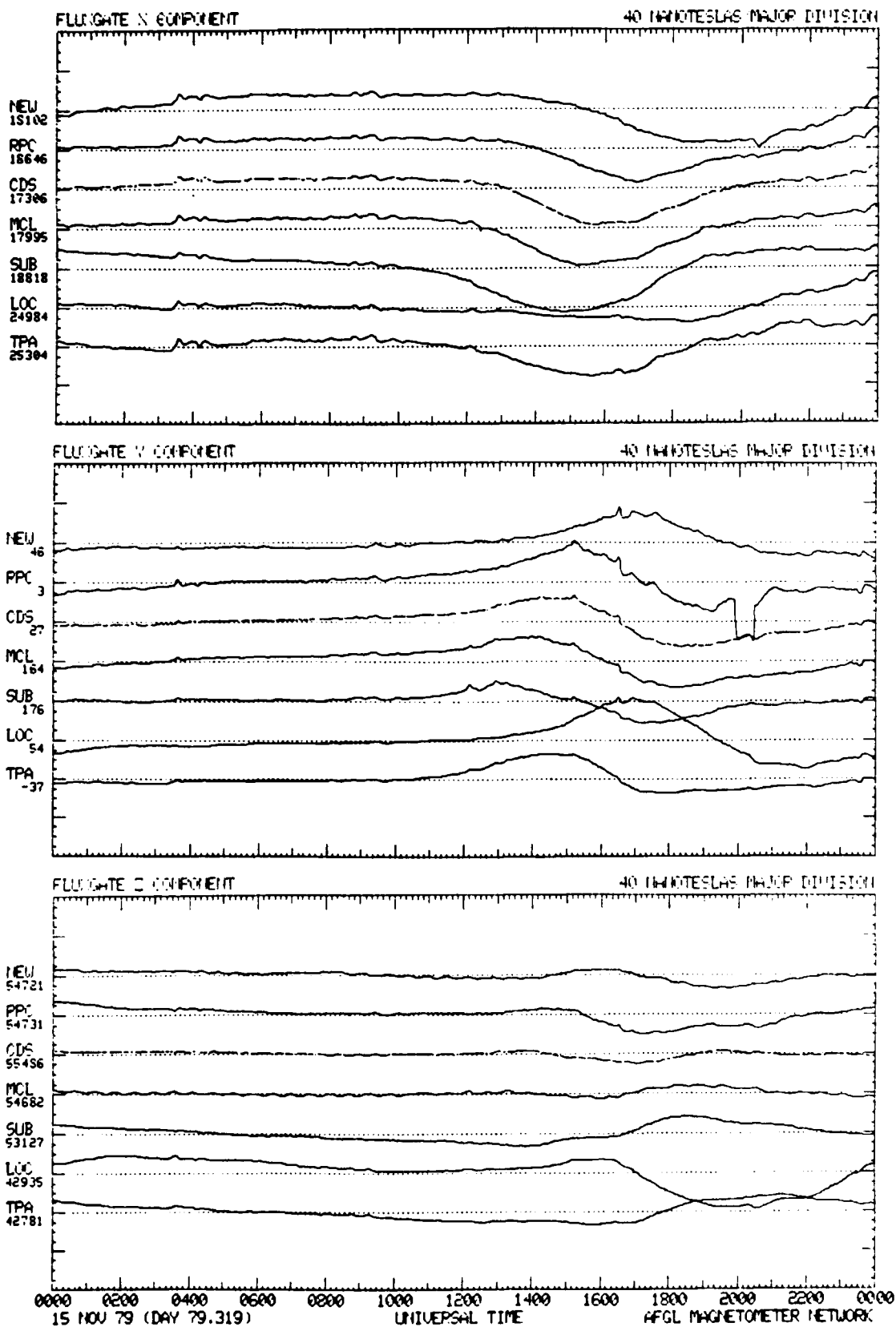


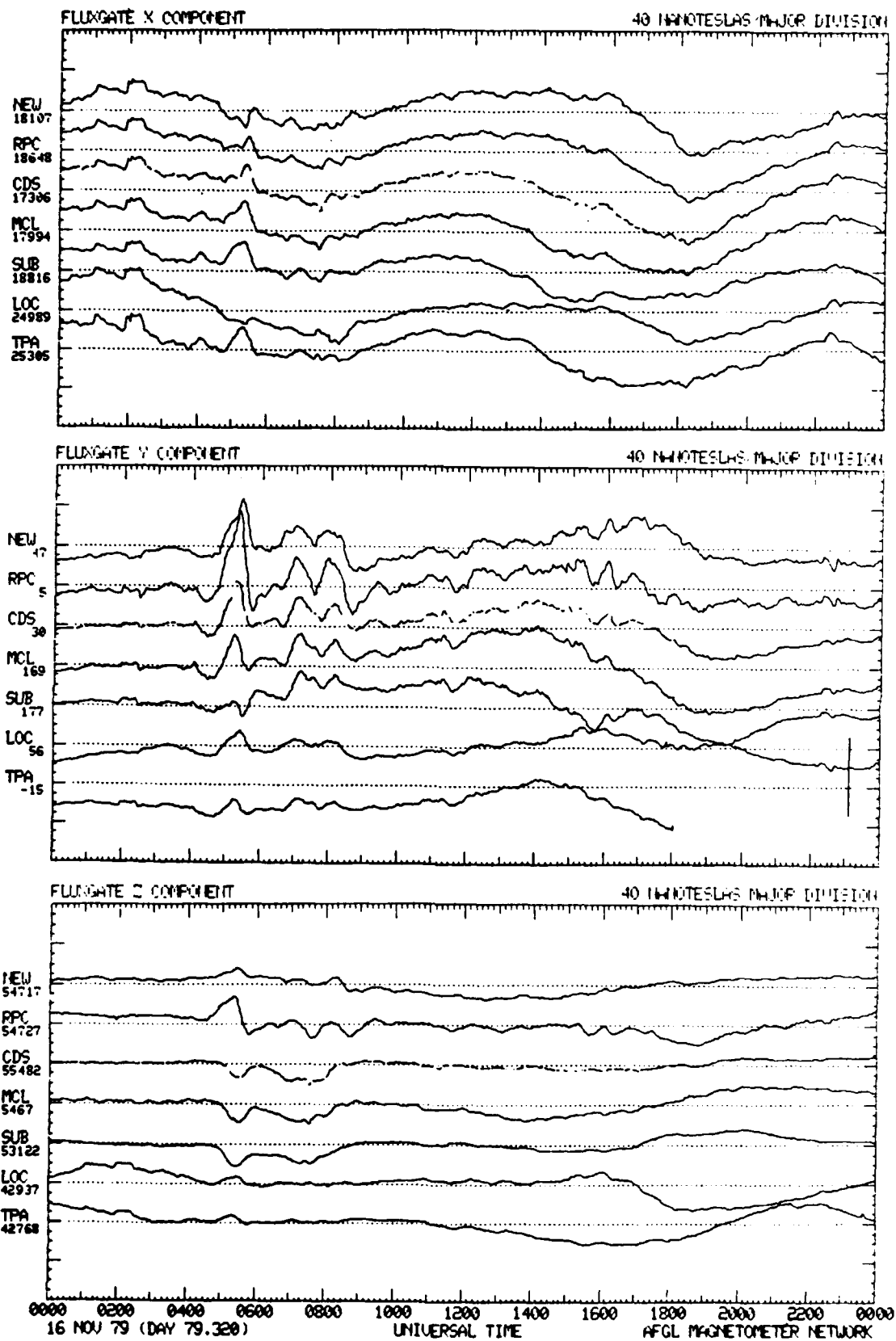


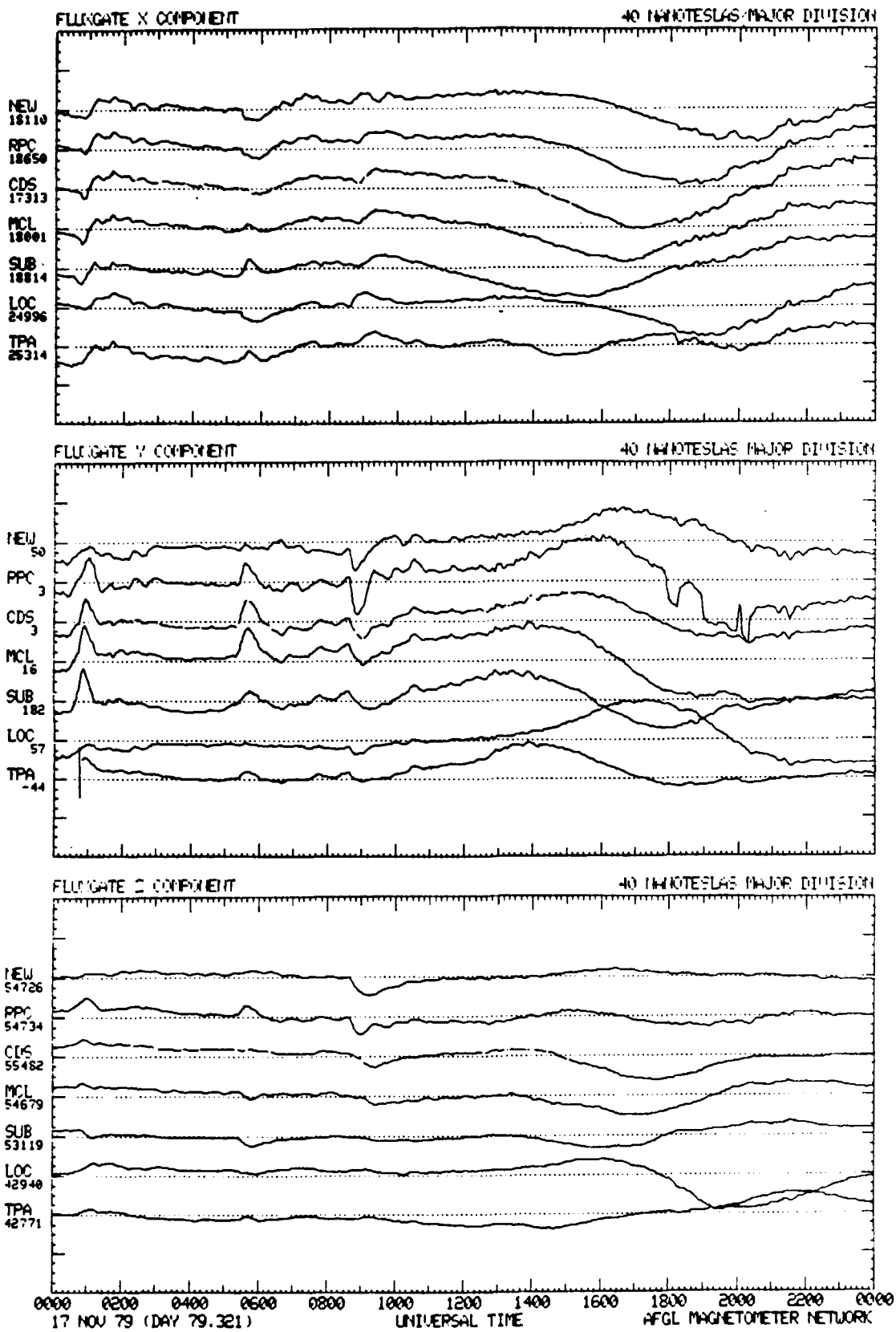


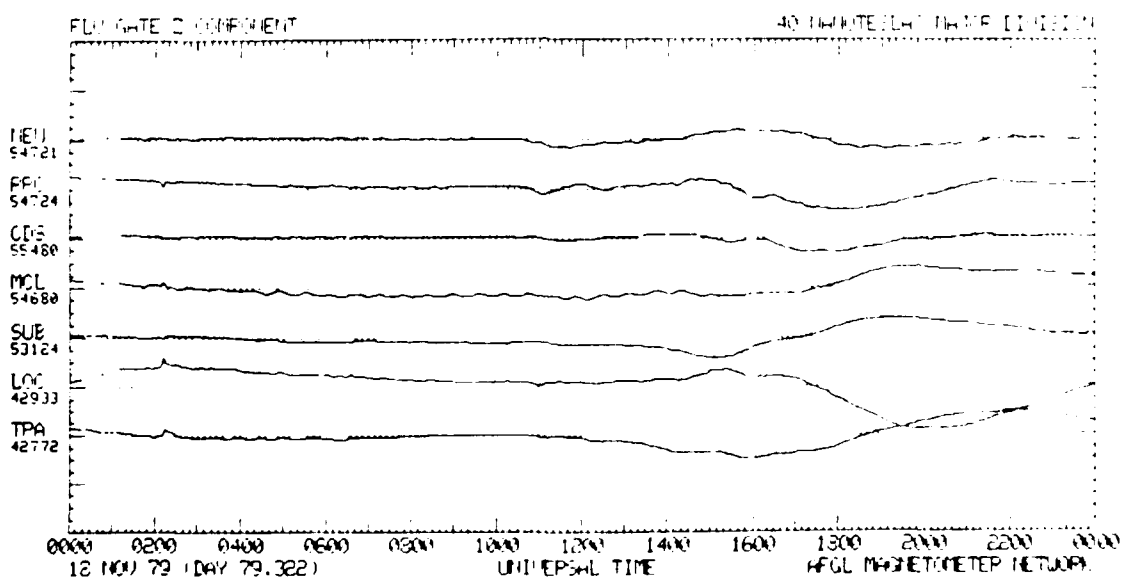
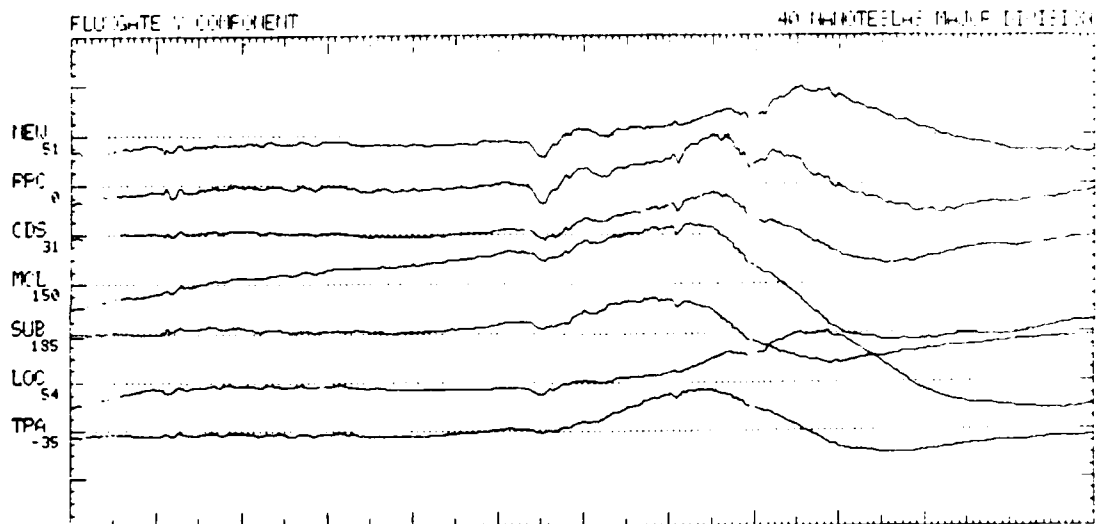
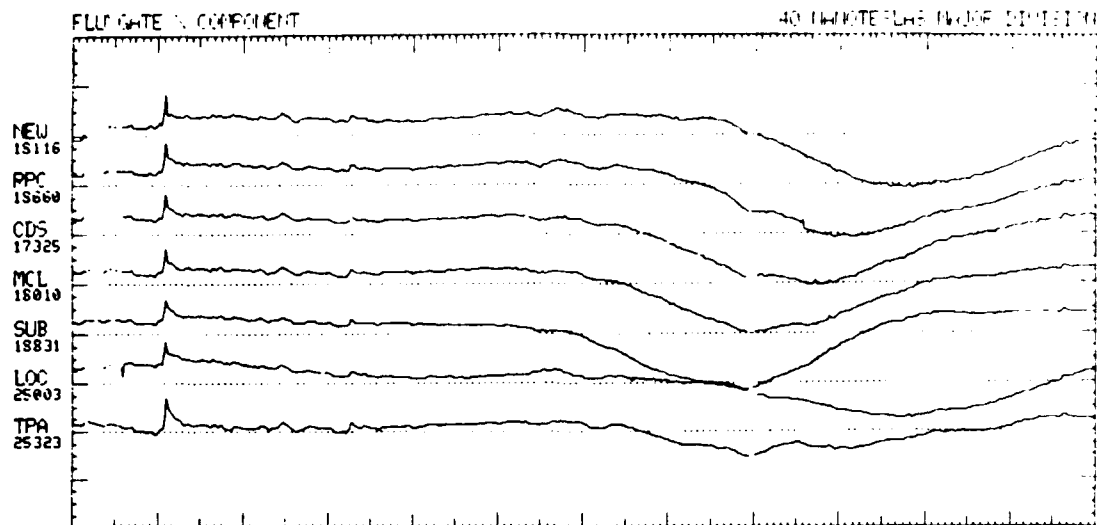


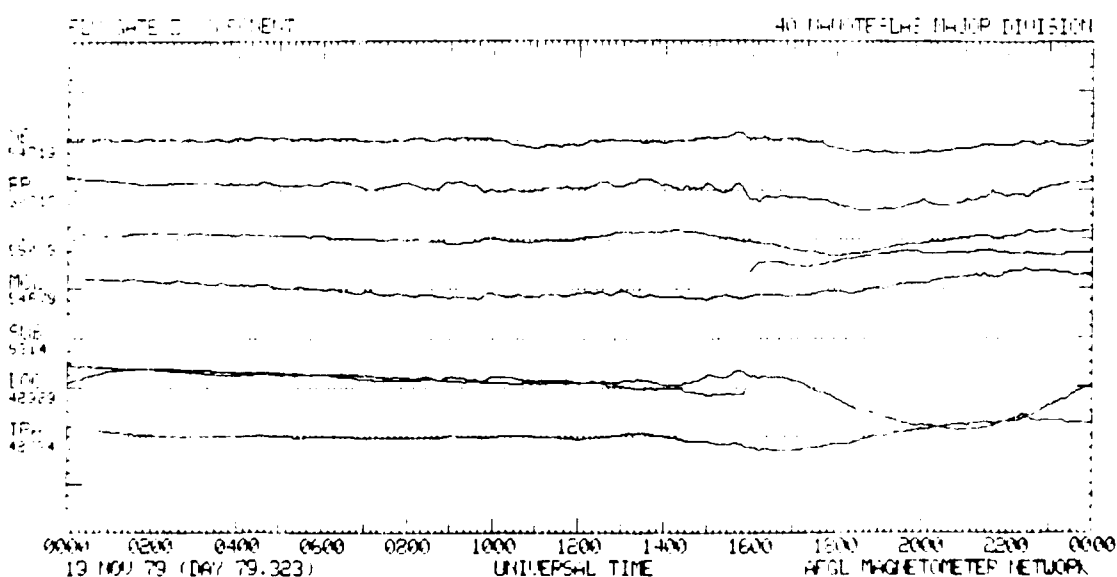
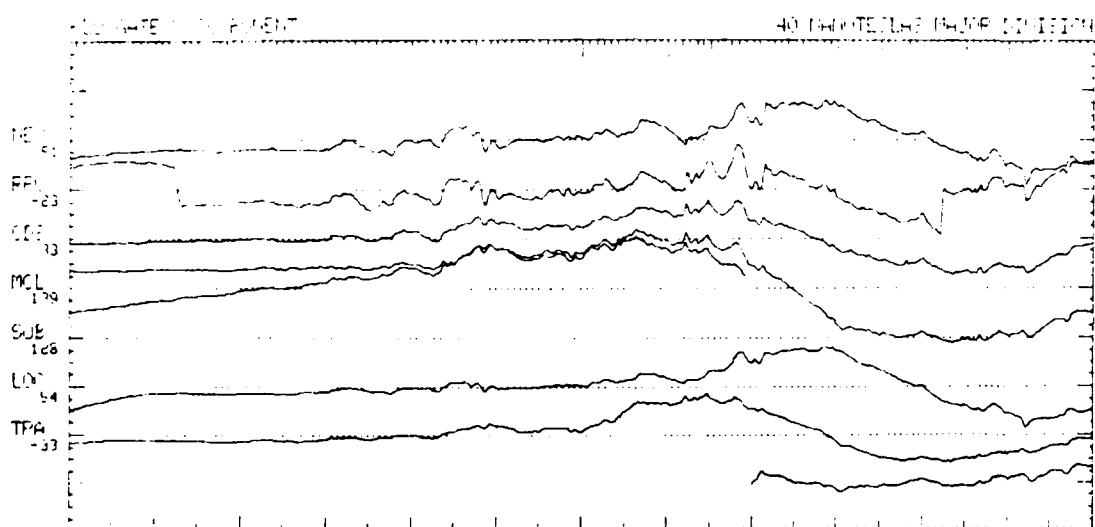
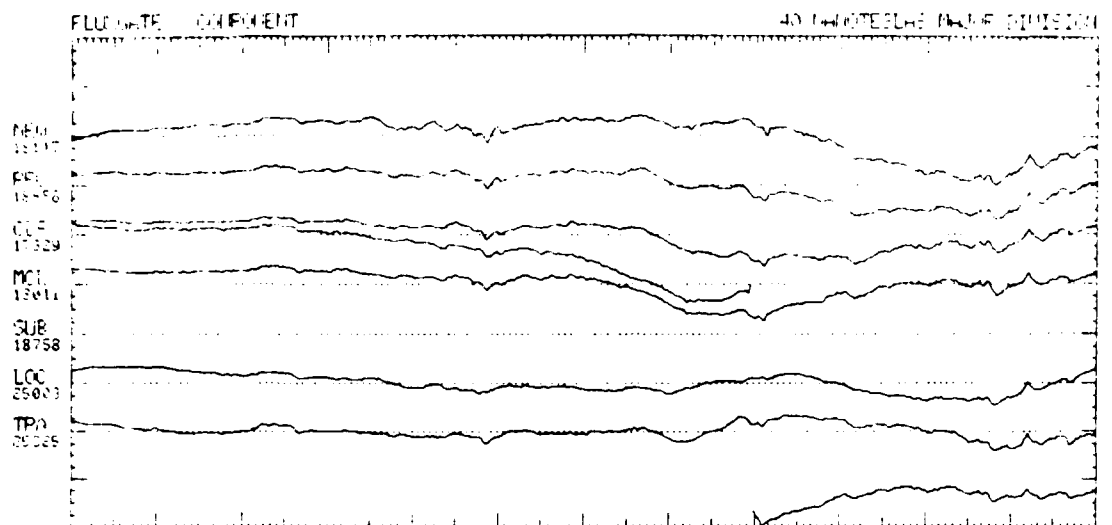


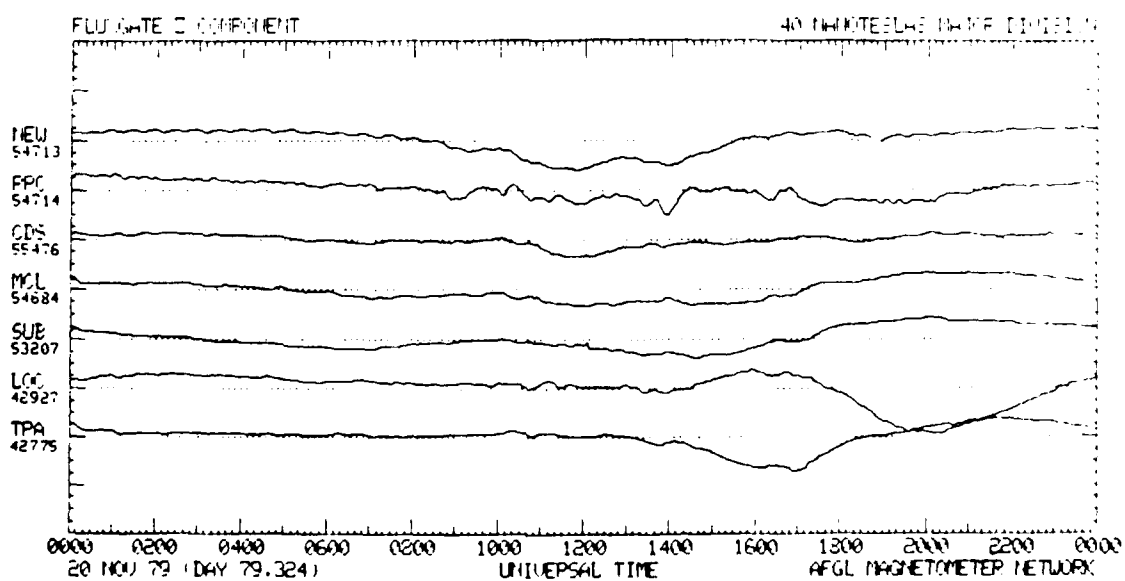
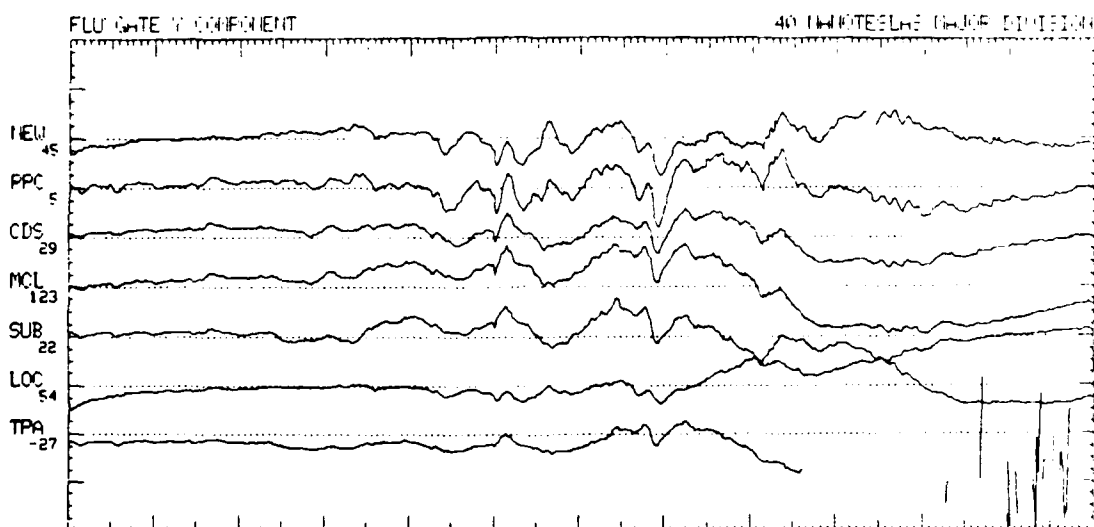
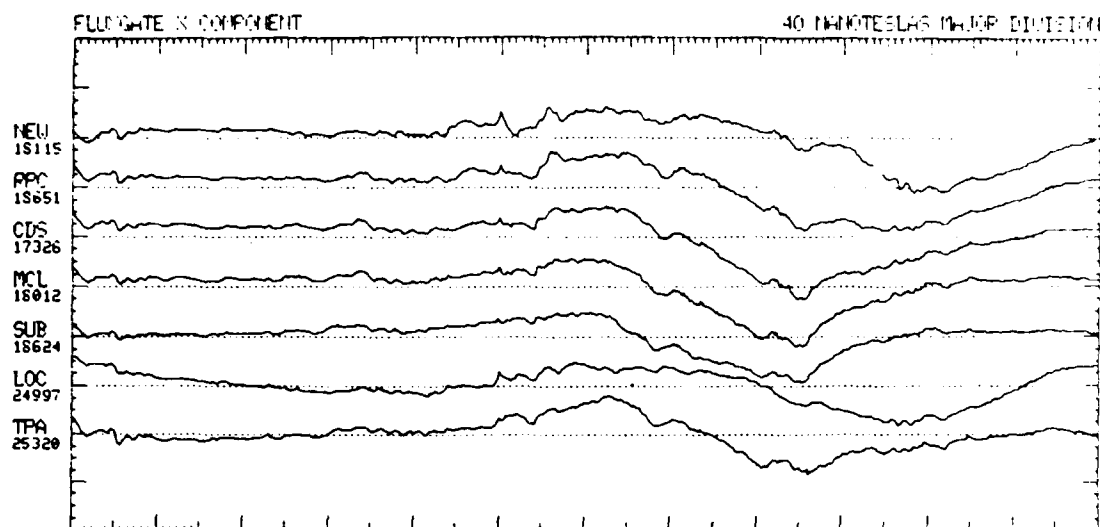


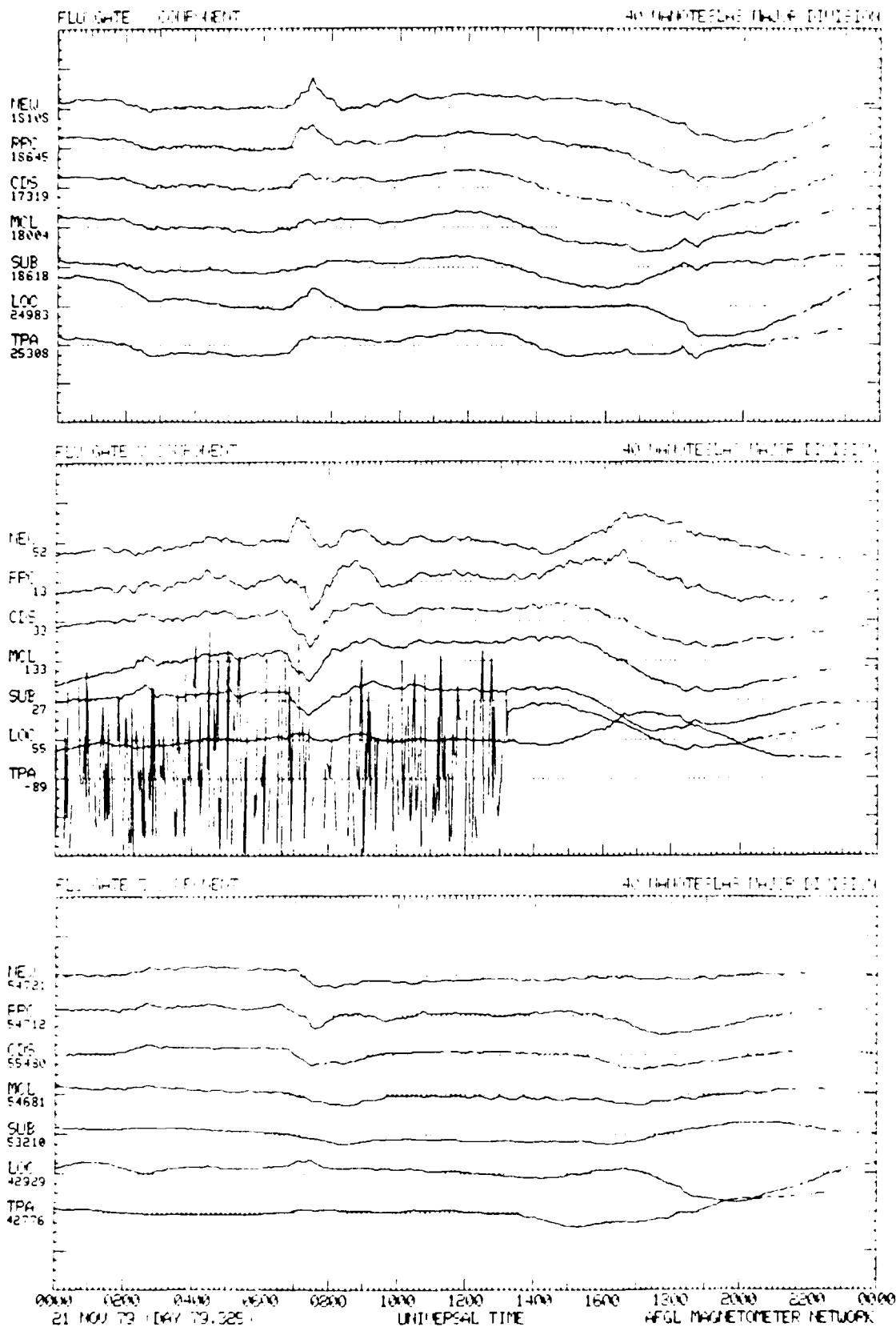








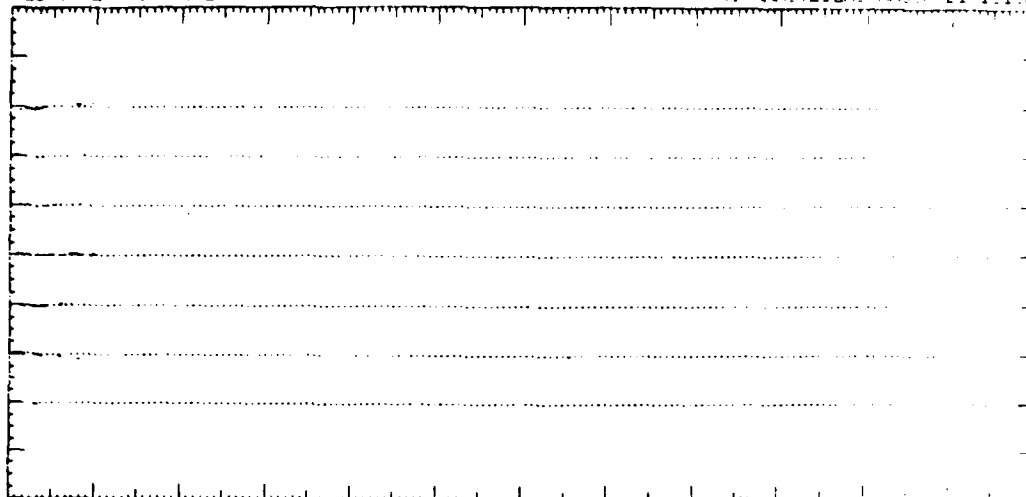




FLIGHT 12 COMPONENT

40 INDIANAPOLIS INQUIRY DIVISION

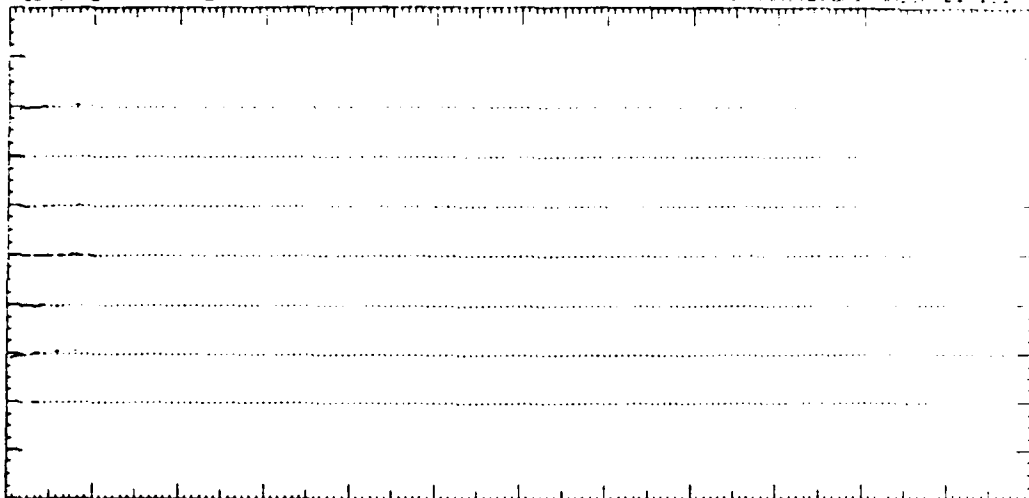
NEW
15115
RPC
15658
CDS
17333
MCL
18021
SUB
18629
LOC
25011
TPA
25323



FLIGHT 12 COMPONENT

40 INDIANAPOLIS INQUIRY DIVISION

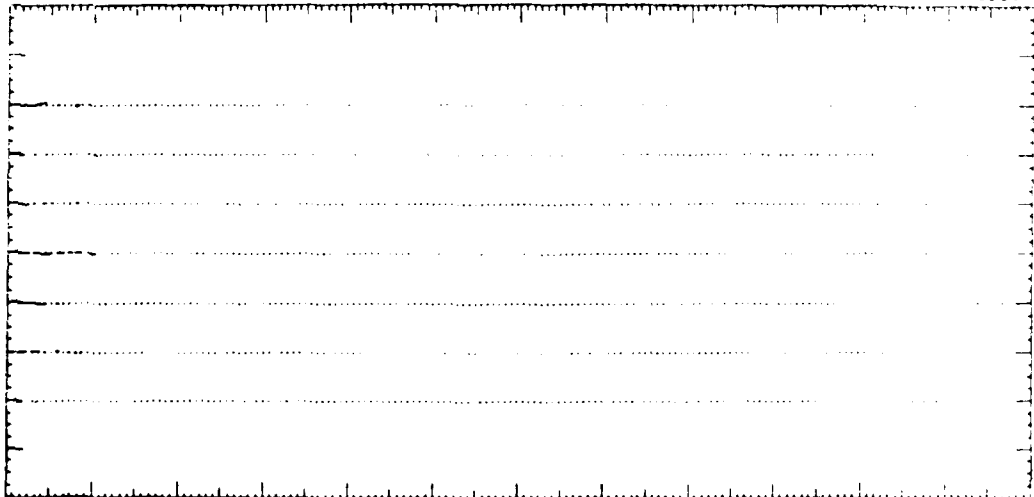
NEW
42
RPC
4
CDS
30
MCL
12
SUB
24
LOC
44
TPA
-33



FLIGHT 12 COMPONENT

40 INDIANAPOLIS INQUIRY DIVISION

NEW
54723
RPC
54717
CDS
55482
MCL
54632
SUB
5320
LOC
42939
TPA
42786



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
22 NOV 79 (DAY 79.326)

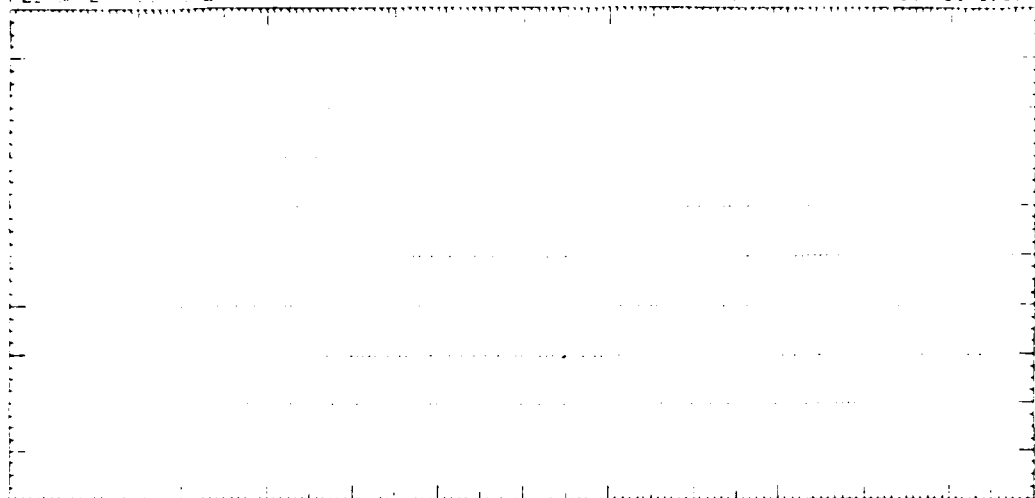
UNIVERSAL TIME

AFGL MAGNETOMETER NETWORK

FLUX RATE CURRENT

40 INCH TELETYPE DIVISION

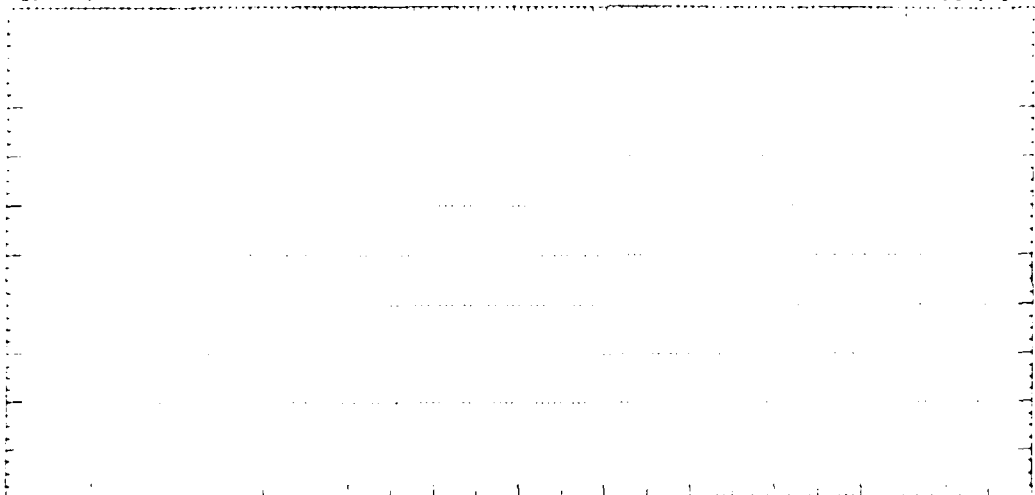
NEU
15115
PPN
15655
CDS
17133
MPL
15121
SUE
15629
LUC
25011
TPA
25323



FLUX RATE CURRENT

40 INCH TELETYPE DIVISION

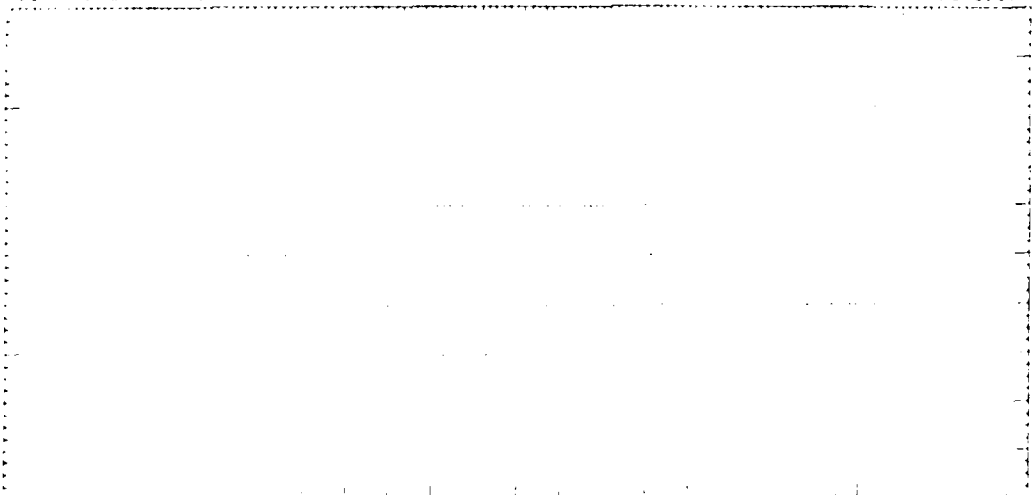
NE
40
PPN
4
CDS
30
MPL
163
SUE
24
LUC
44
TPA
-33



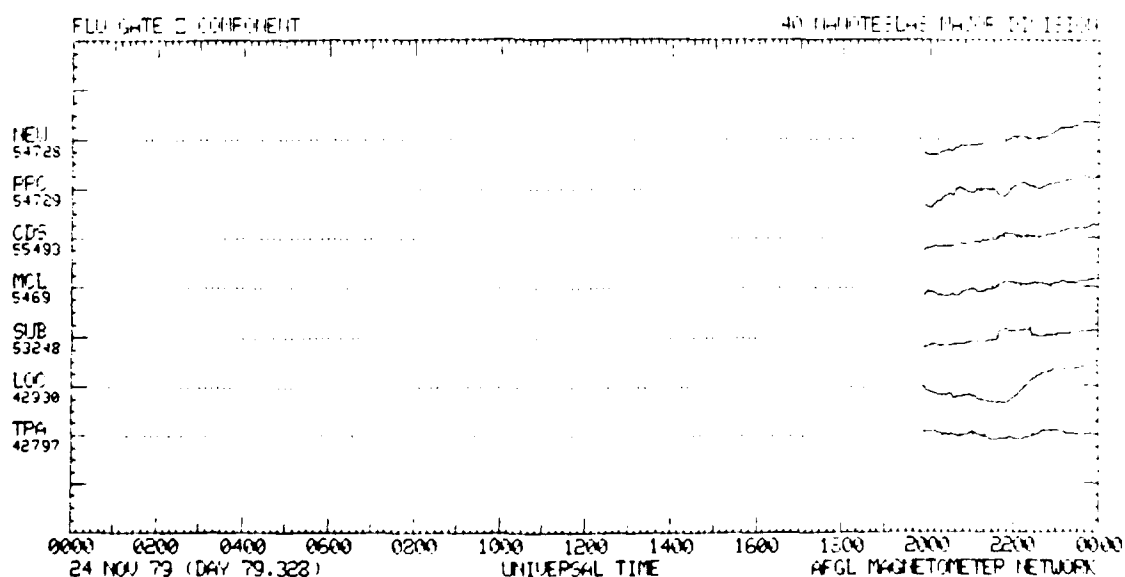
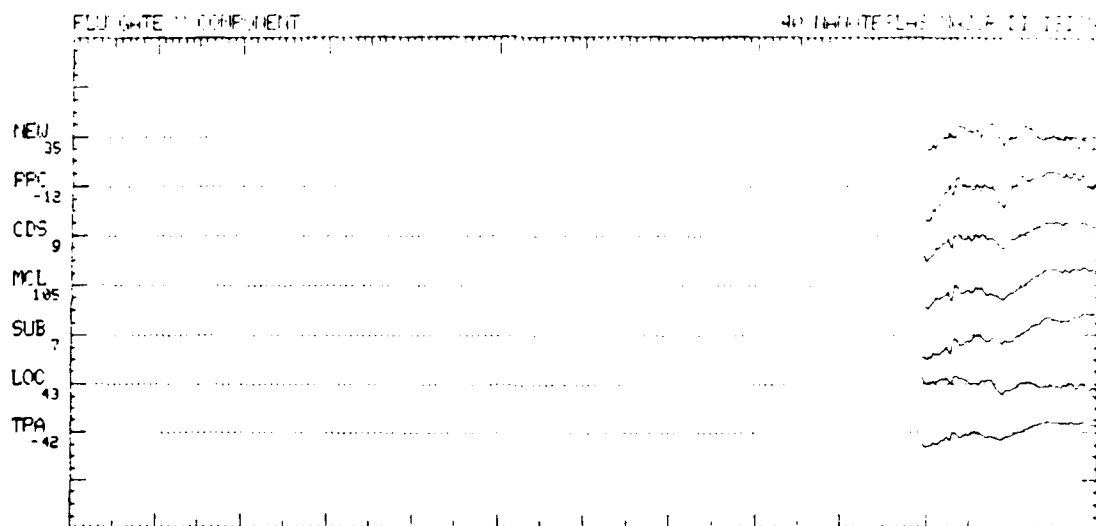
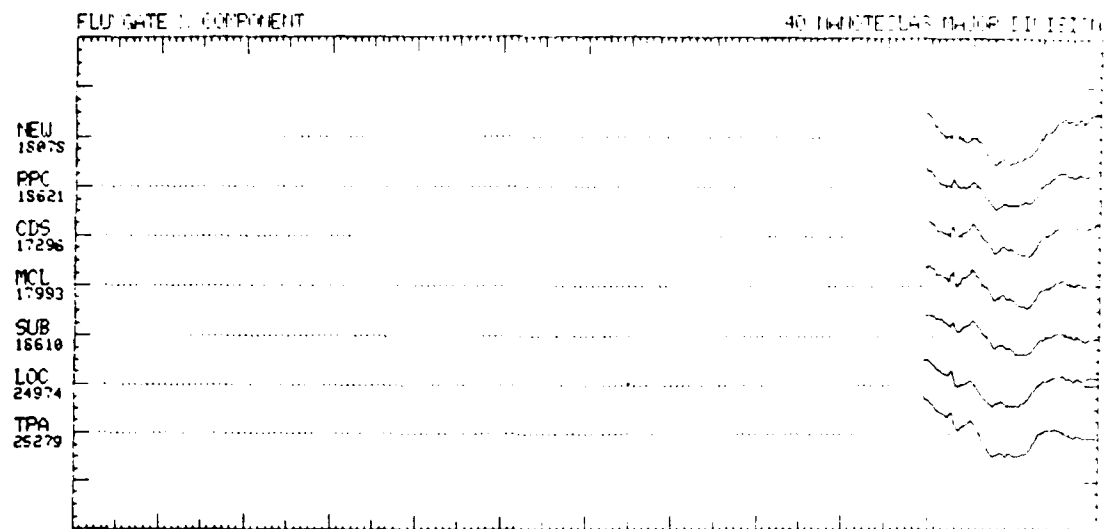
FLUX RATE CURRENT

40 INCH TELETYPE DIVISION

NE
54153
PPN
54117
CDS
67412
MPL
54452
SUE
51208
LUC
42139
TPA
42756

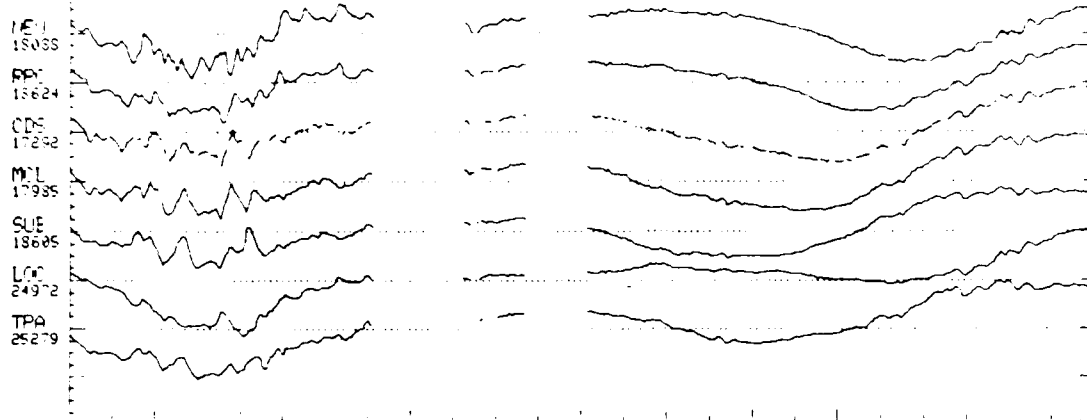


0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
23 NOV 79 (DAY 79.327) UNIVERSAL TIME HFGI LIGHTMETER NETWORK



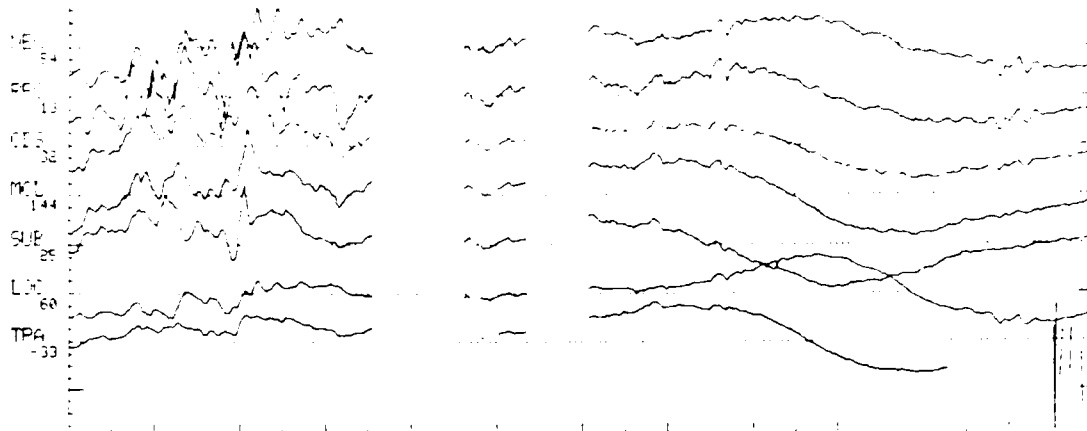
FLIGHT DATE 01/01/73

40 MINUTE DATA DIVISION



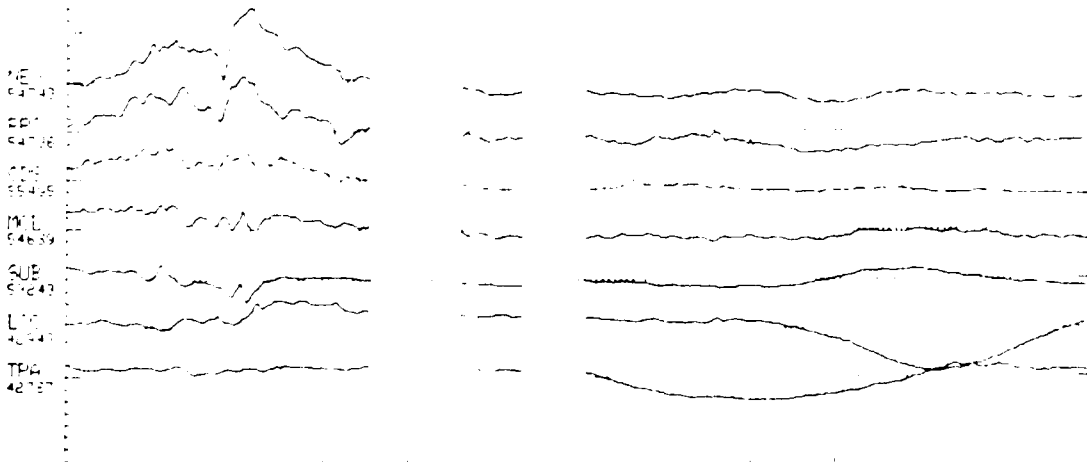
FLIGHT DATE 01/01/73

40 MINUTE DATA DIVISION

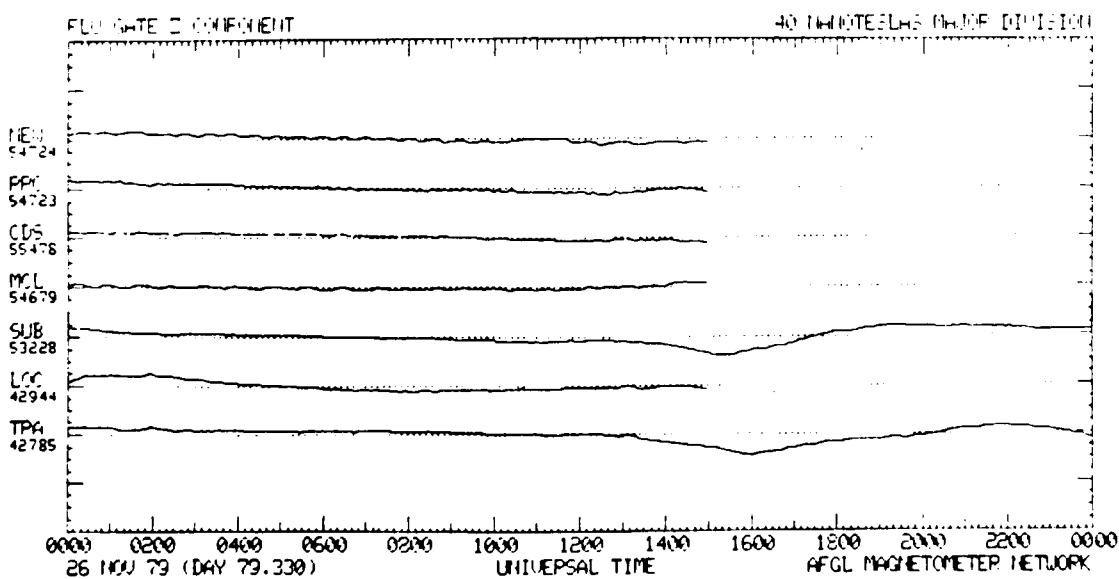
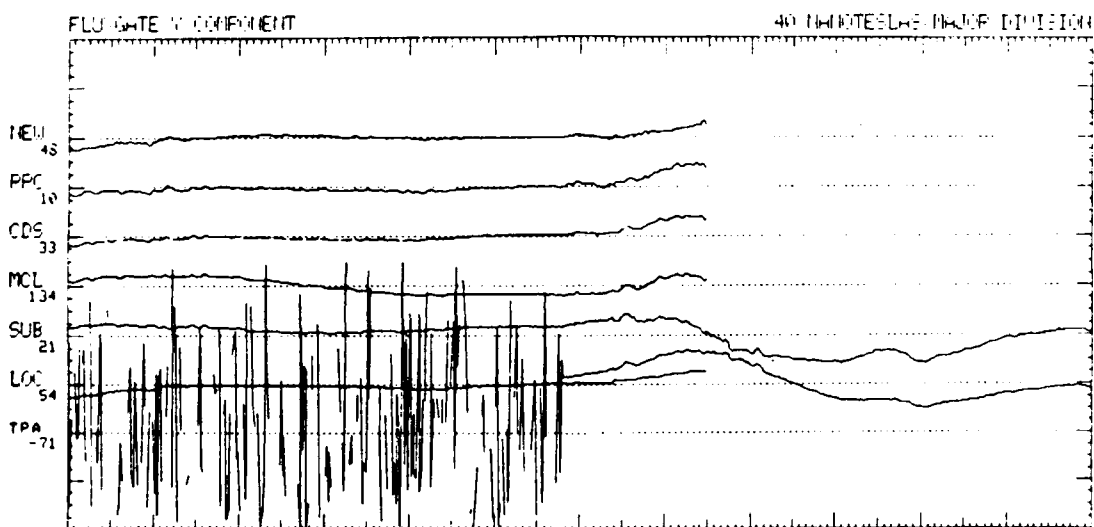
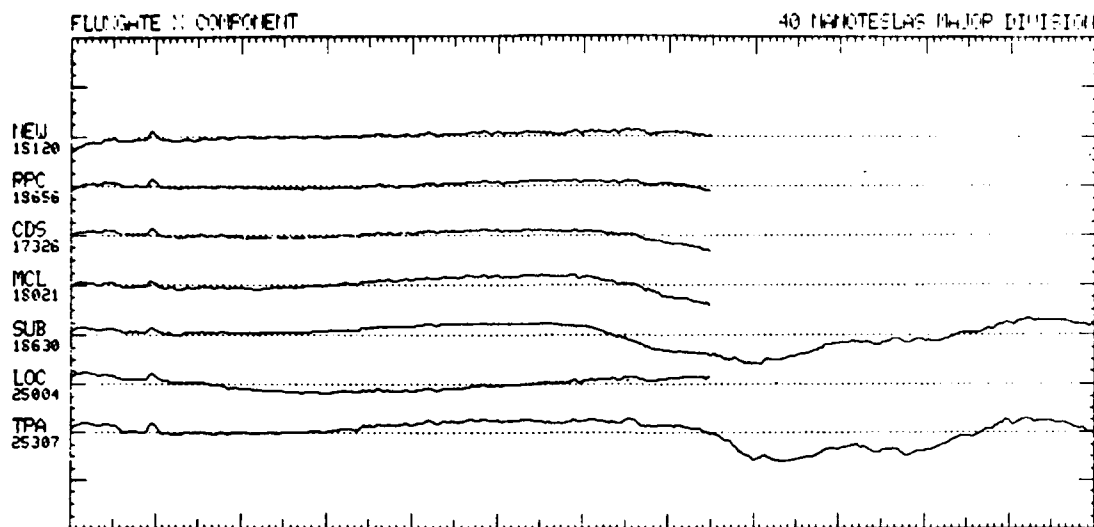


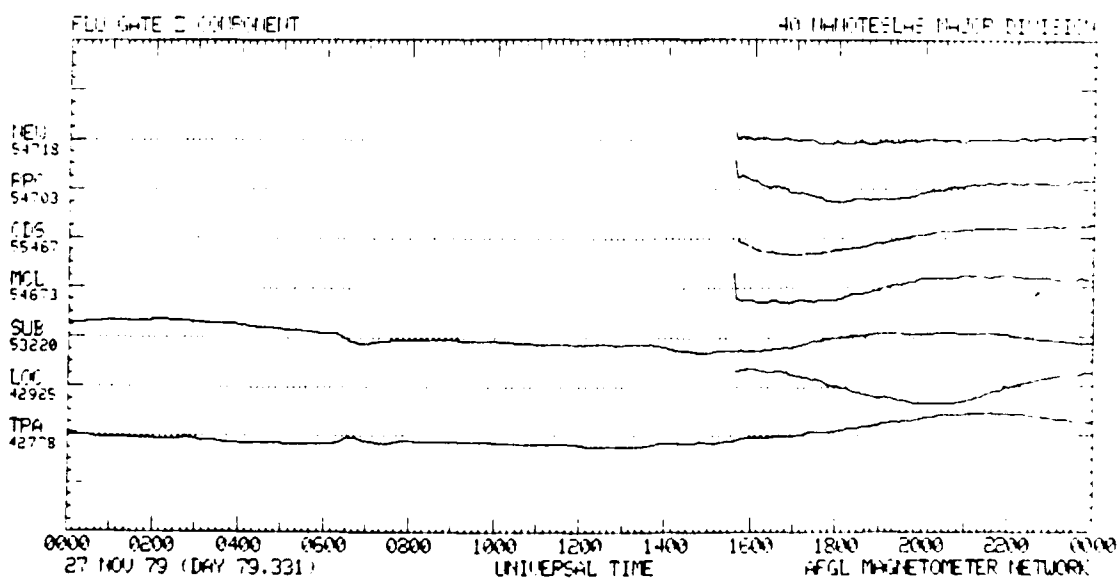
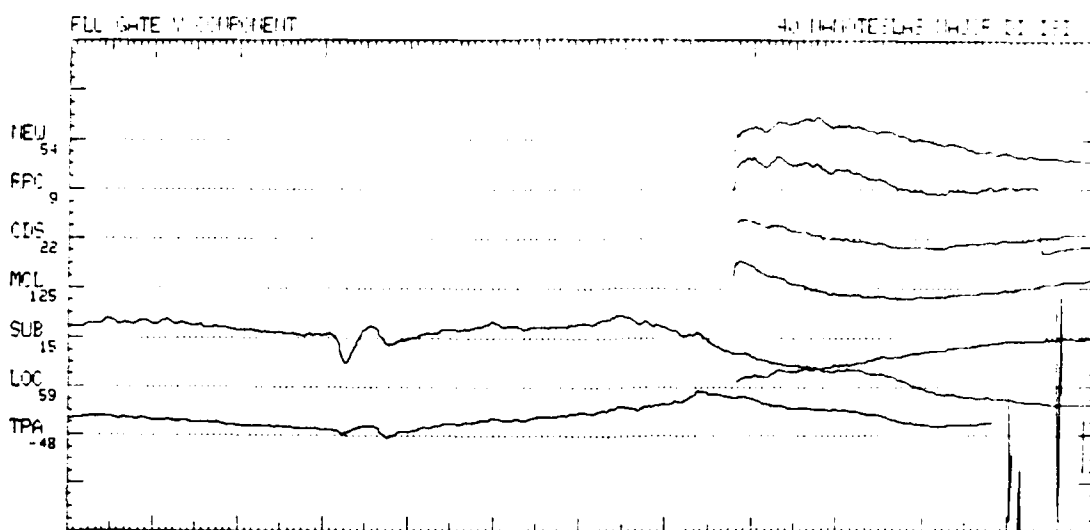
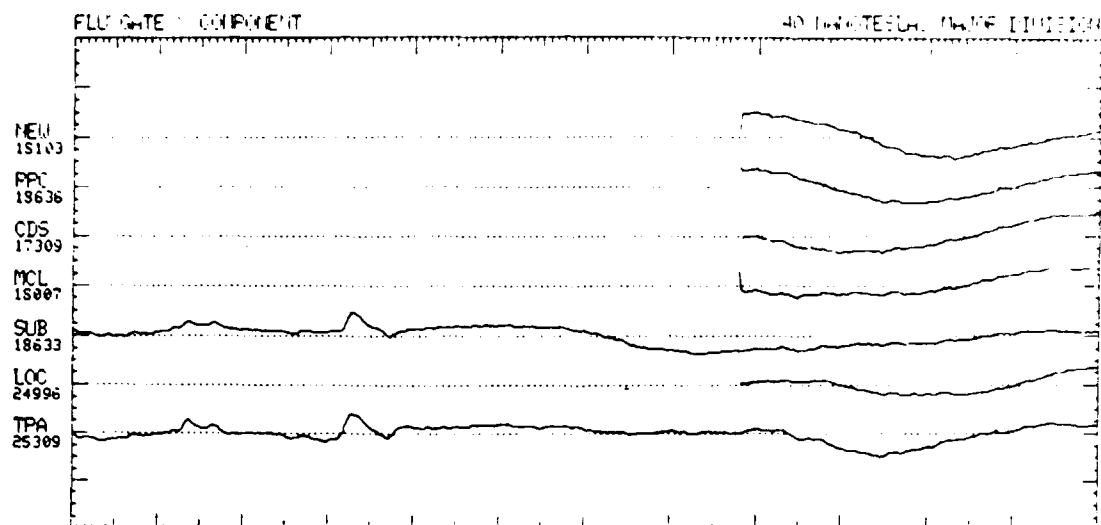
FLIGHT DATE 01/01/73

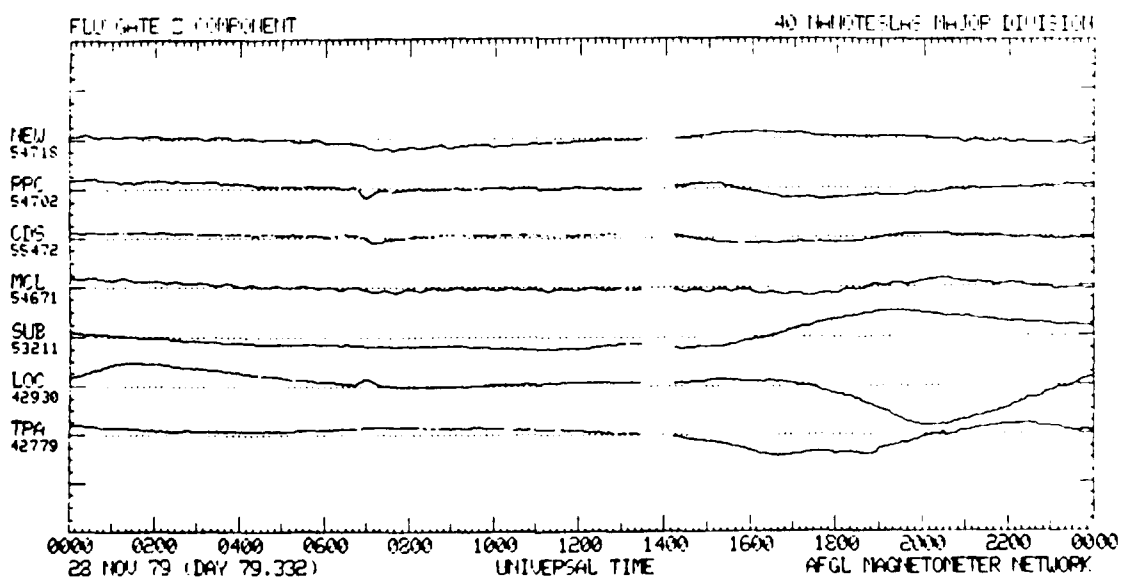
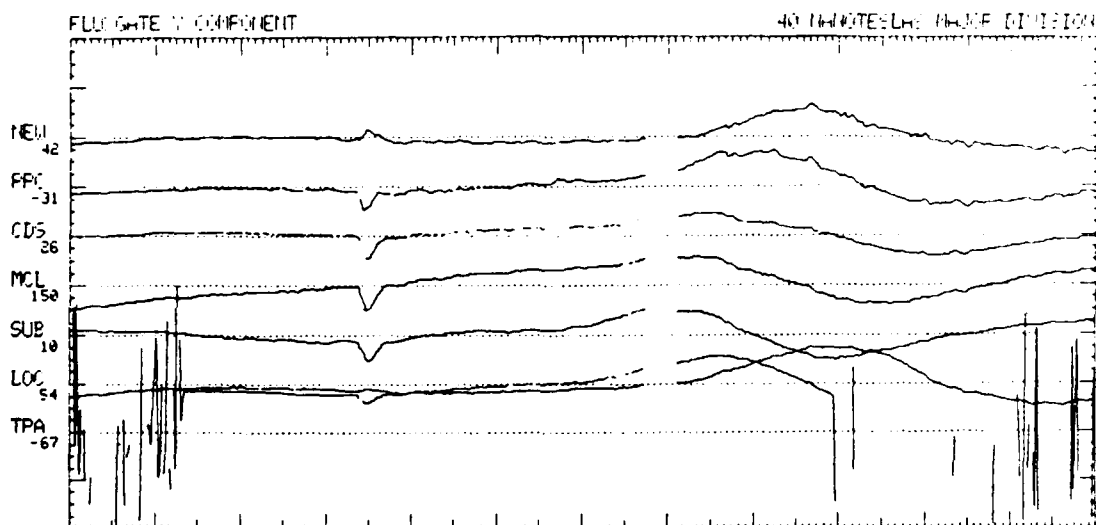
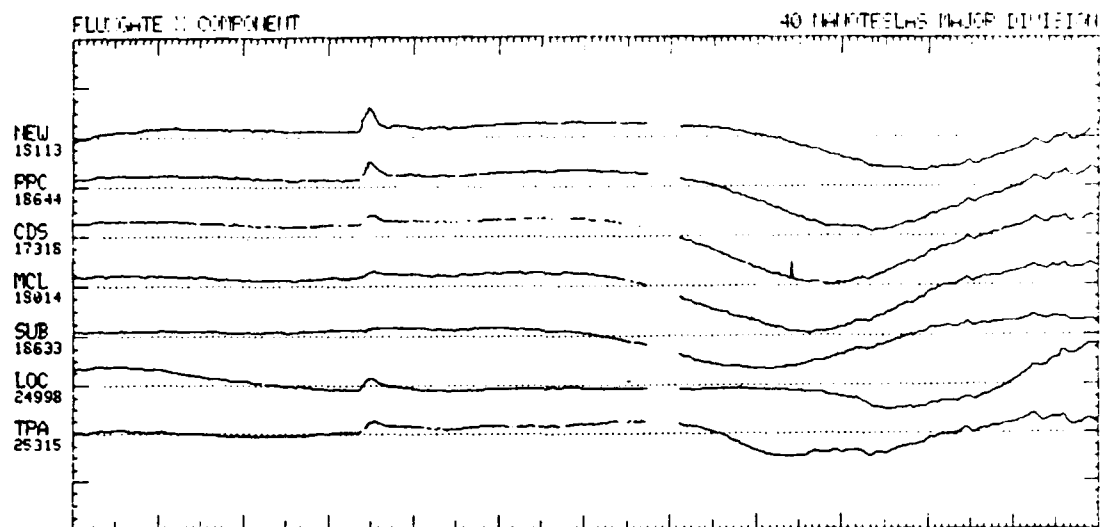
40 MINUTE DATA DIVISION

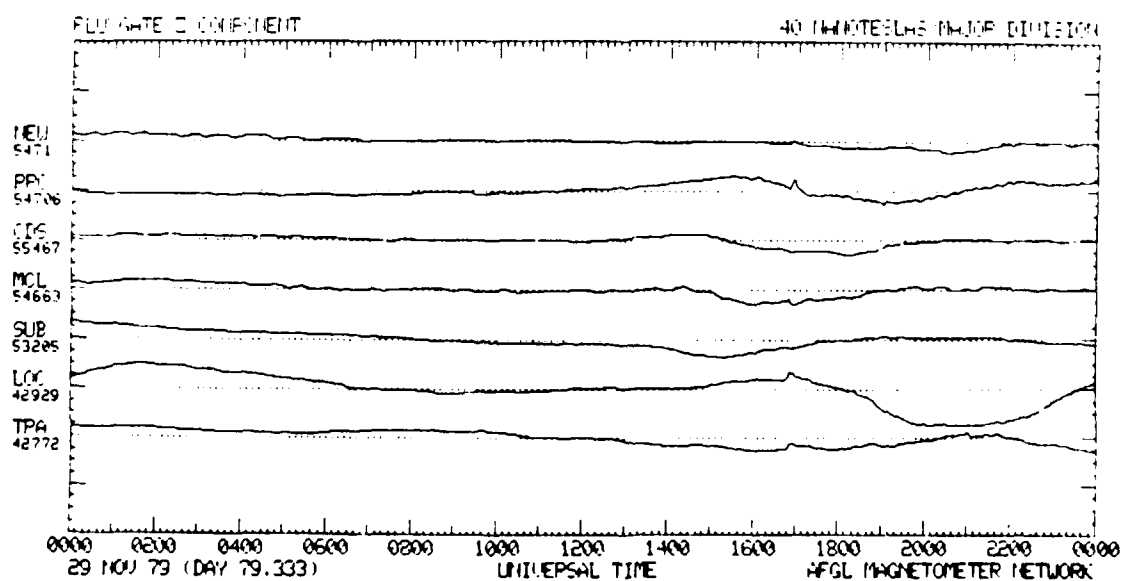
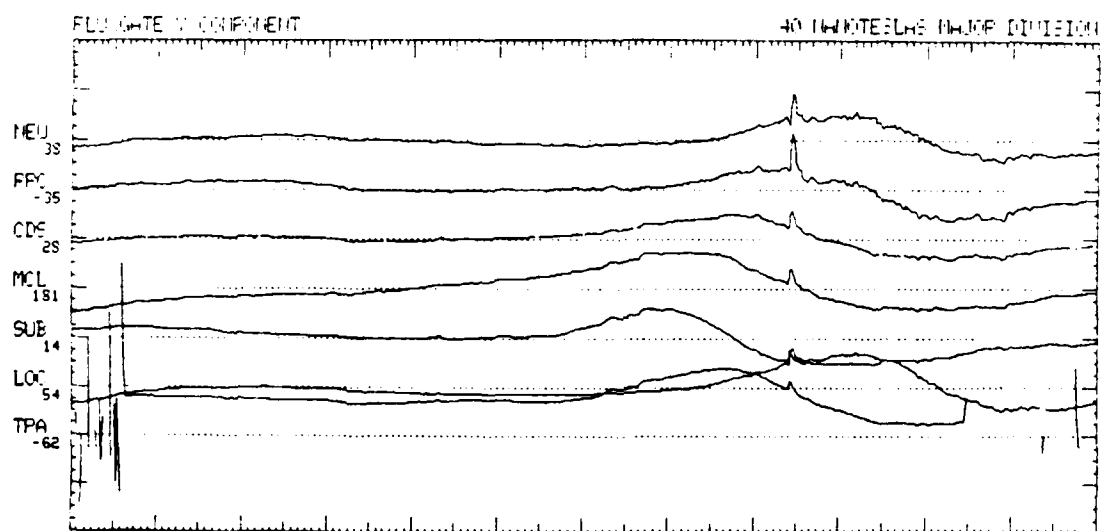
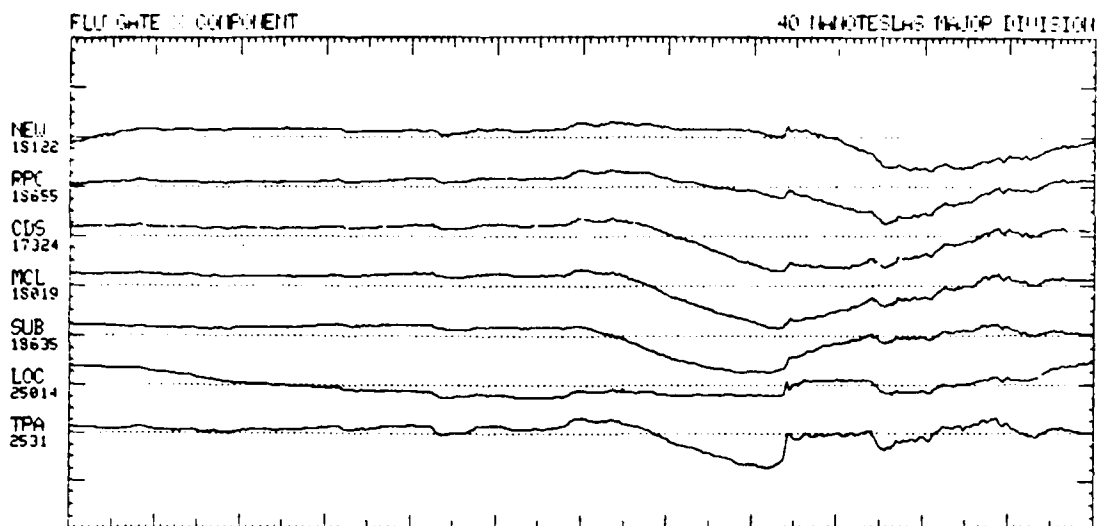


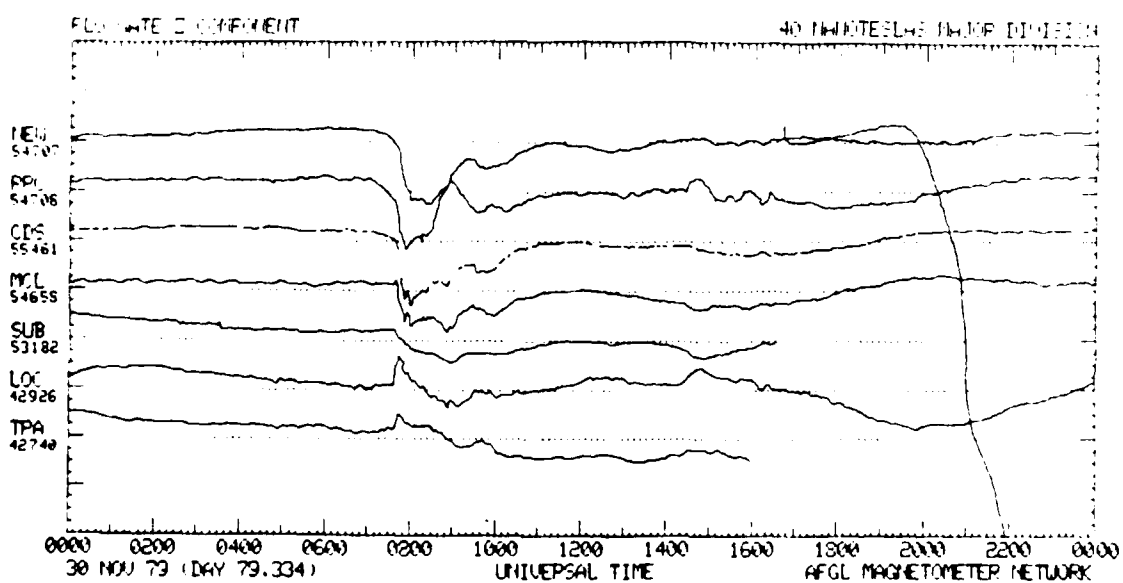
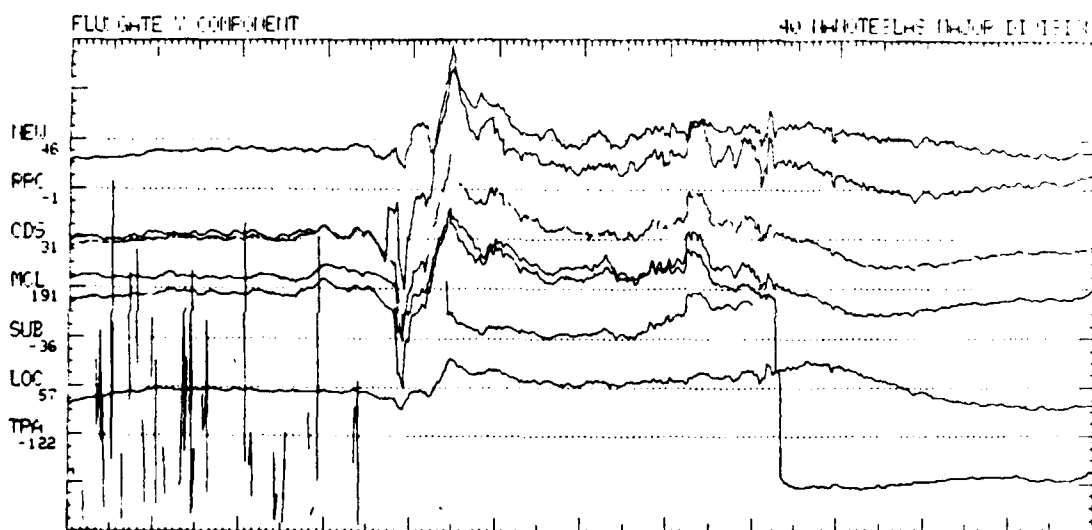
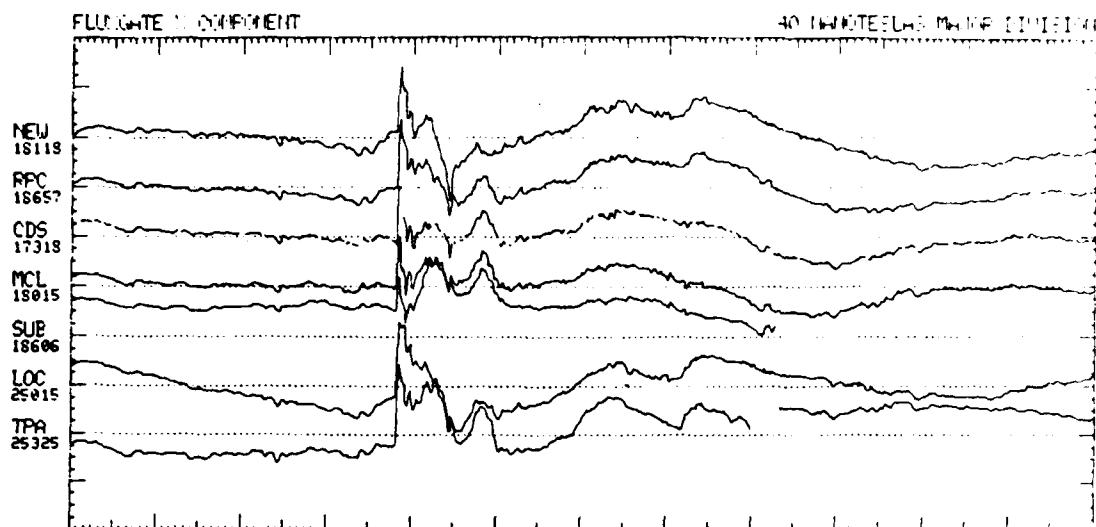
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
25 100 73 (147 73 329)
UNIVERSAL TIME
AFGL MAGNETOMETER NETWORK

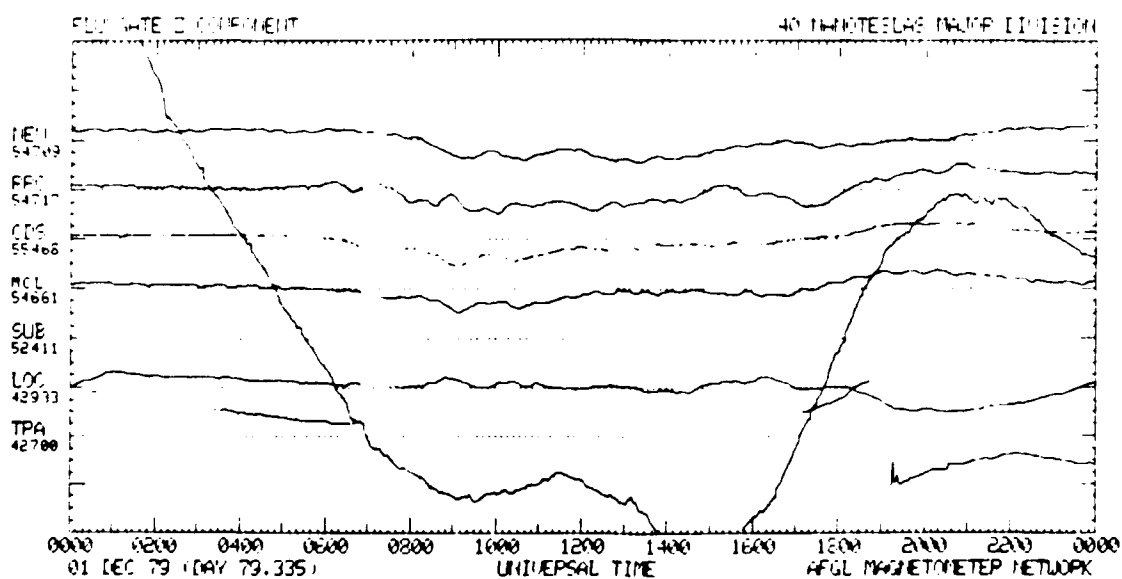
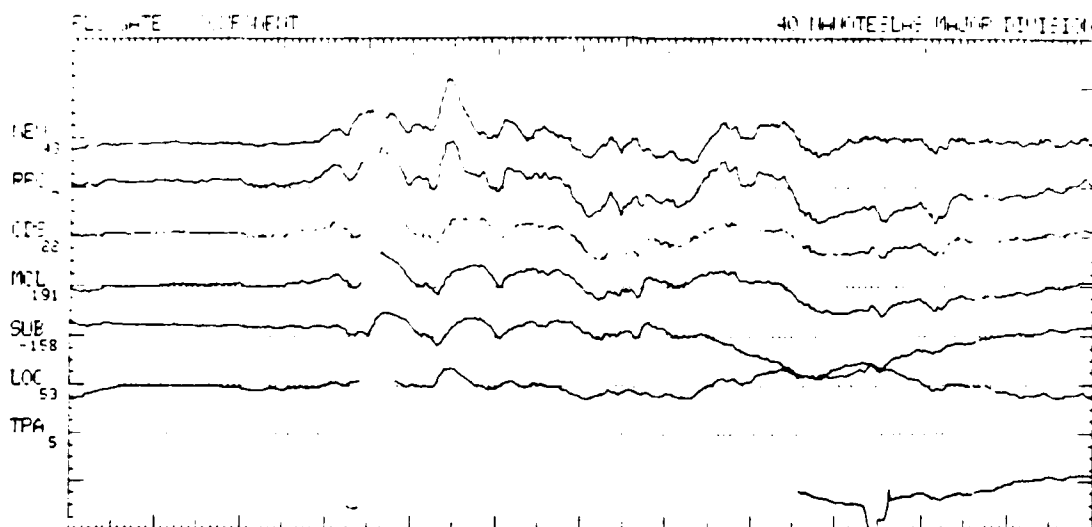
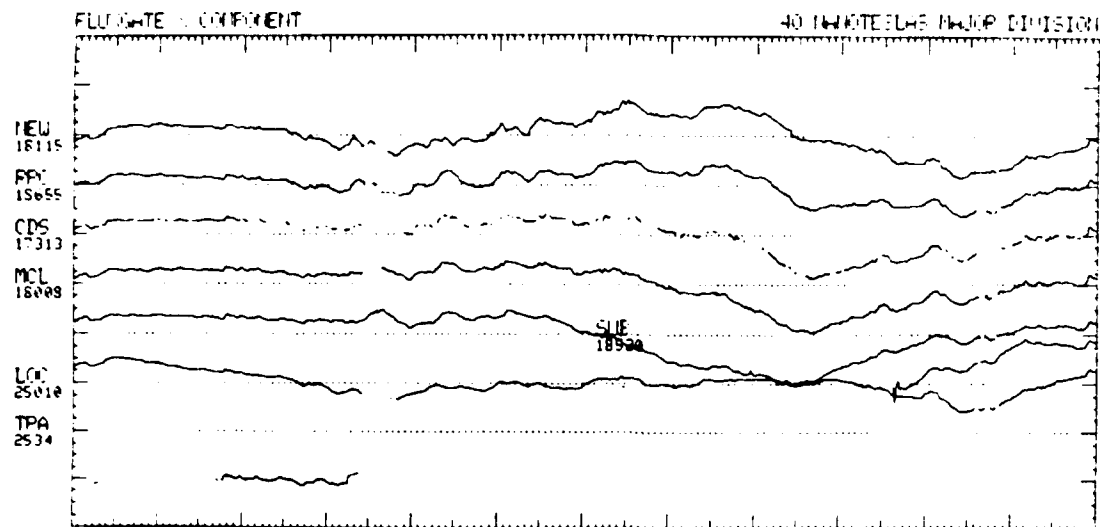


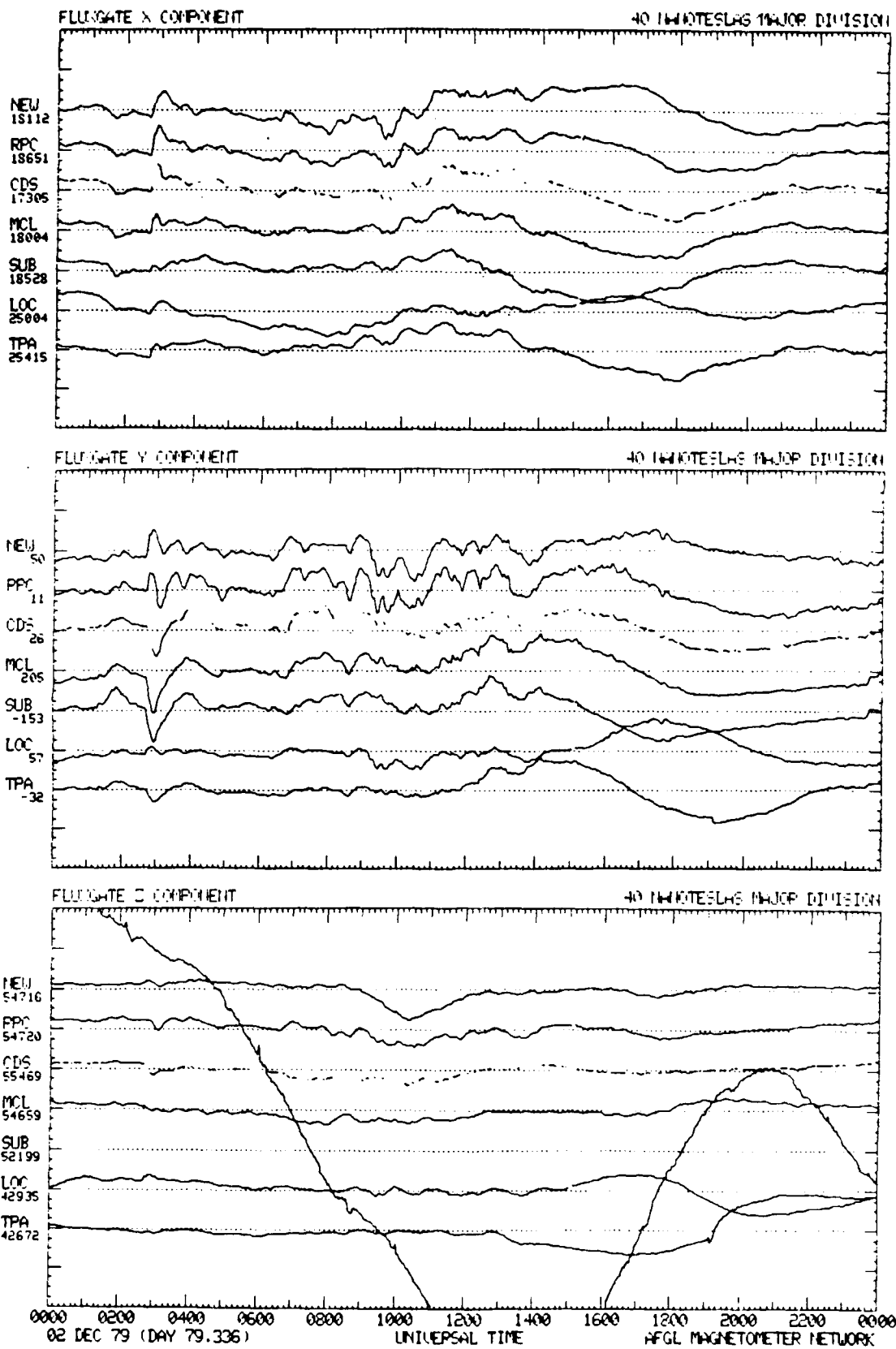


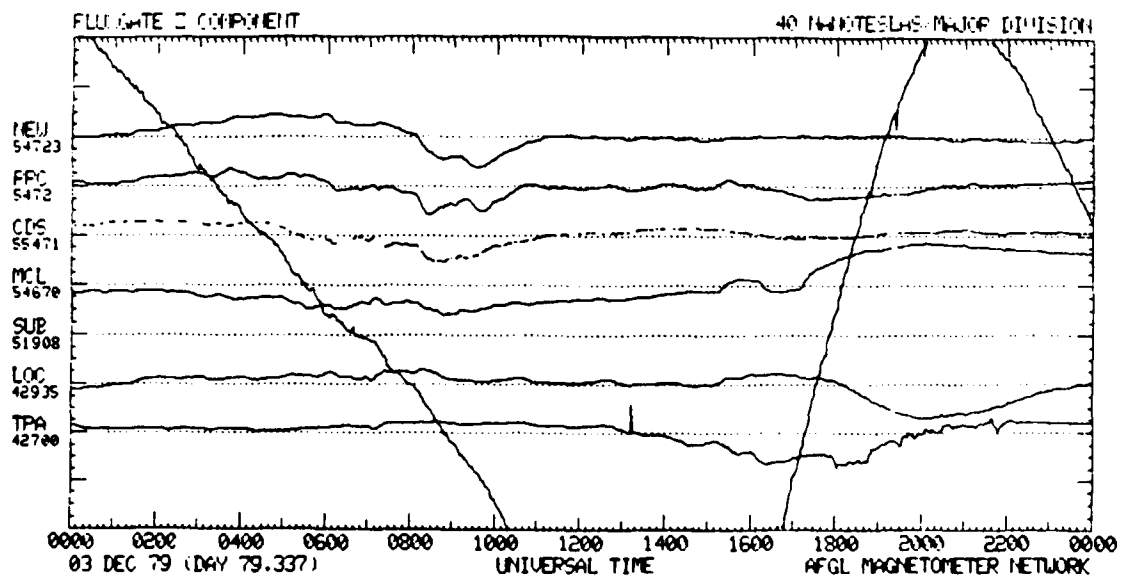
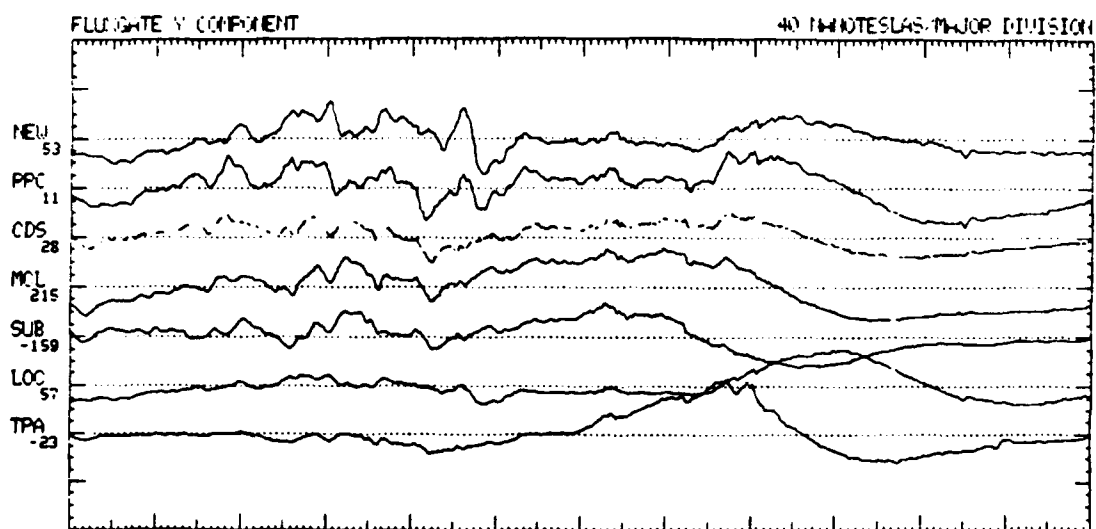
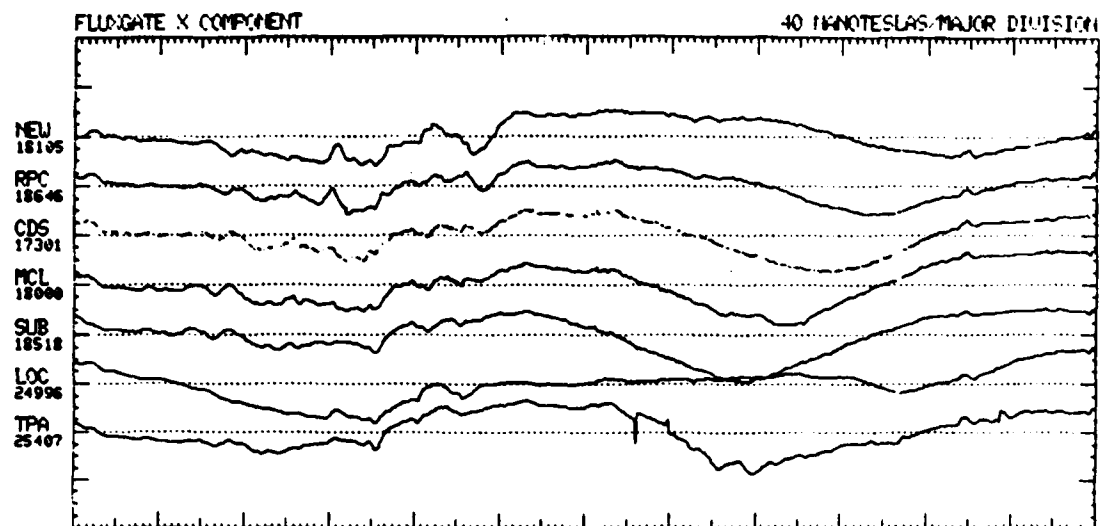


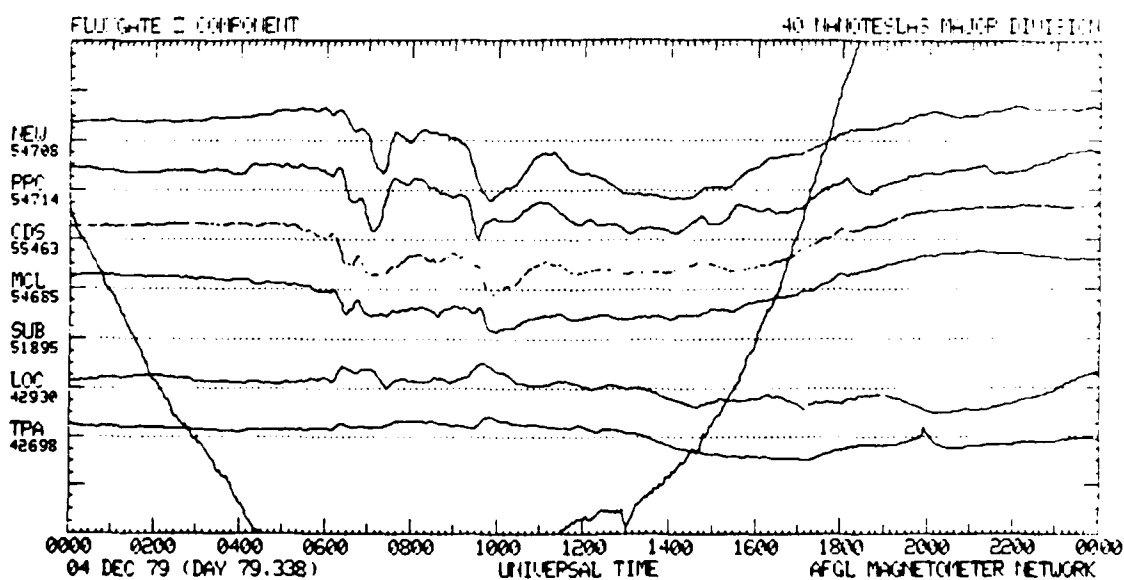
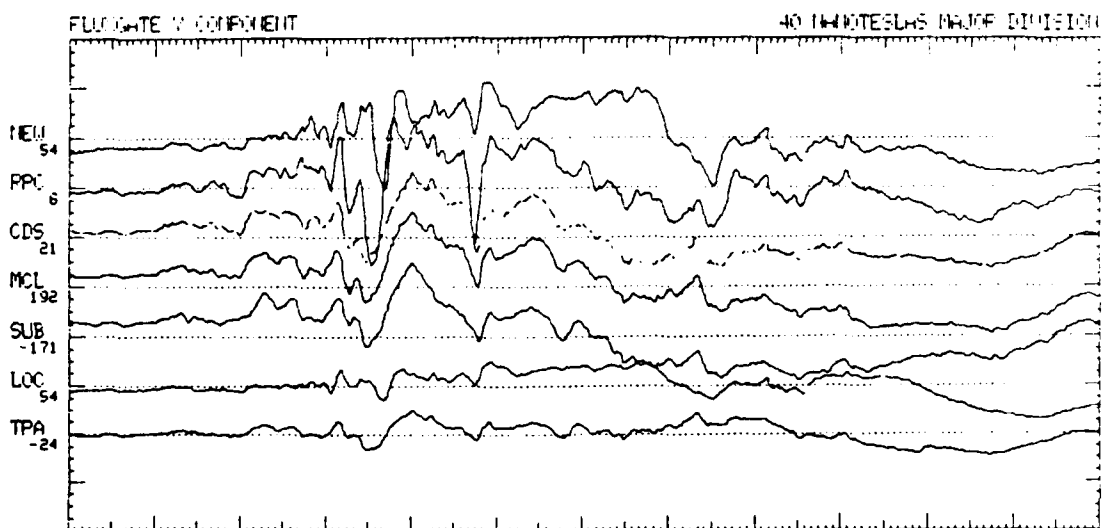
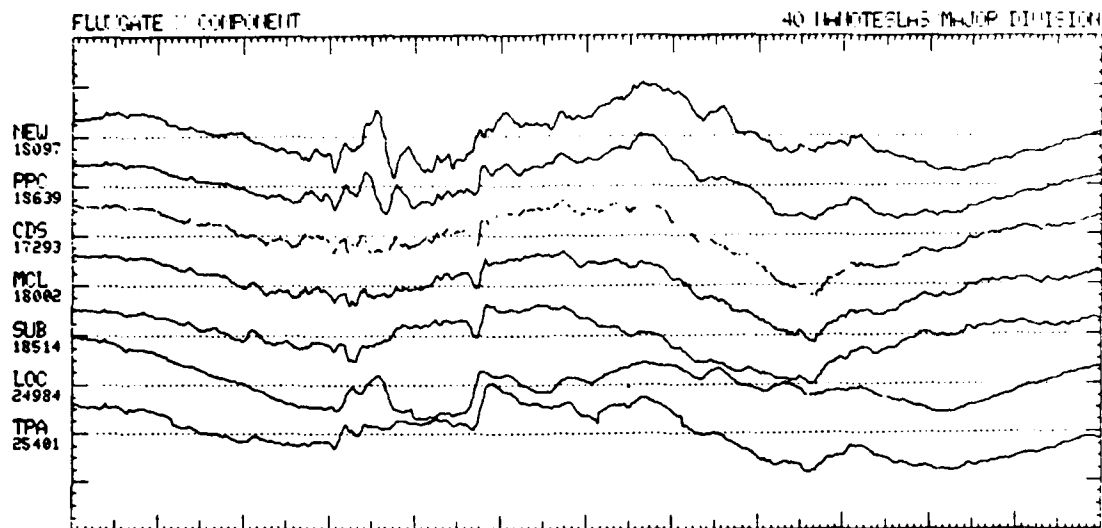


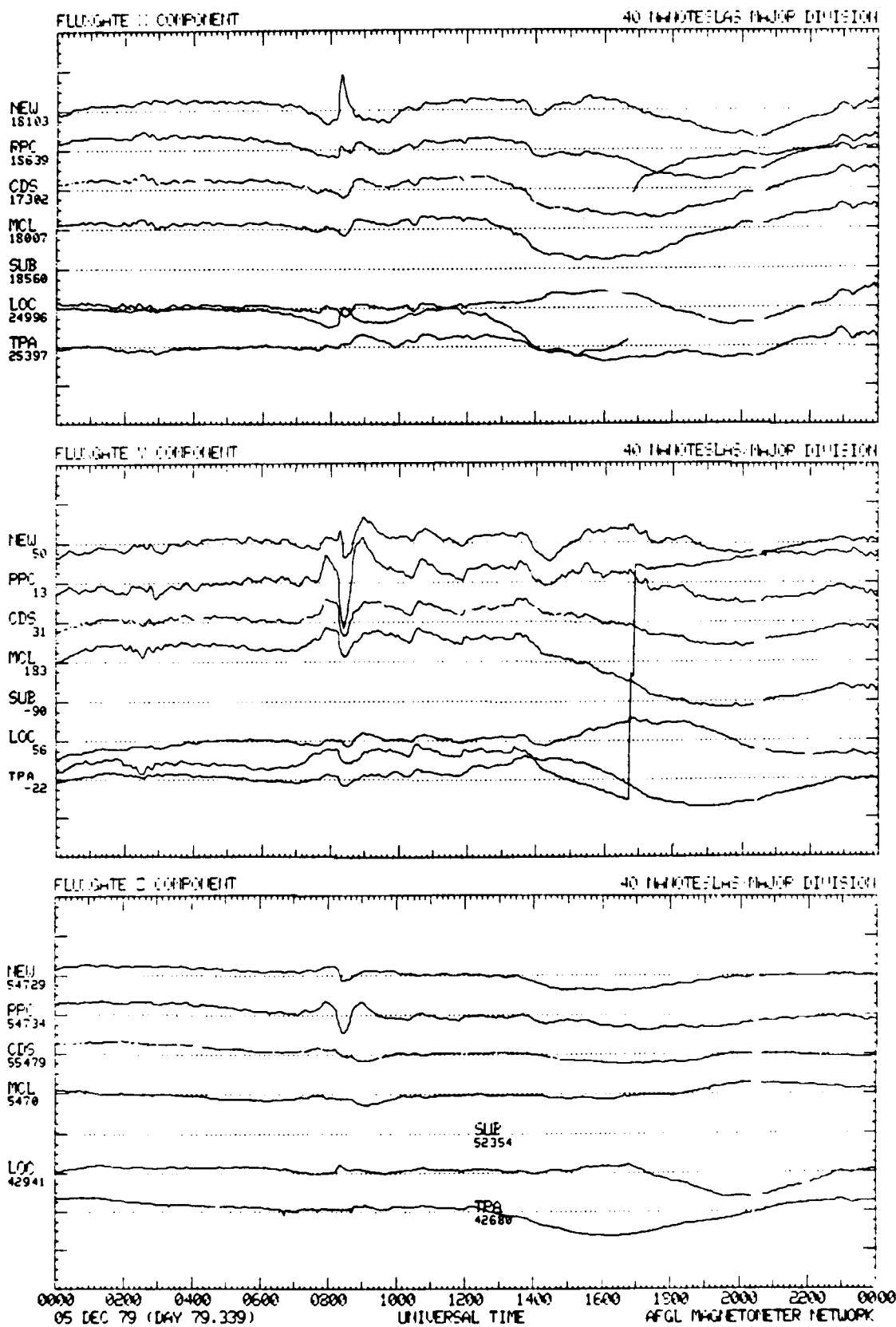


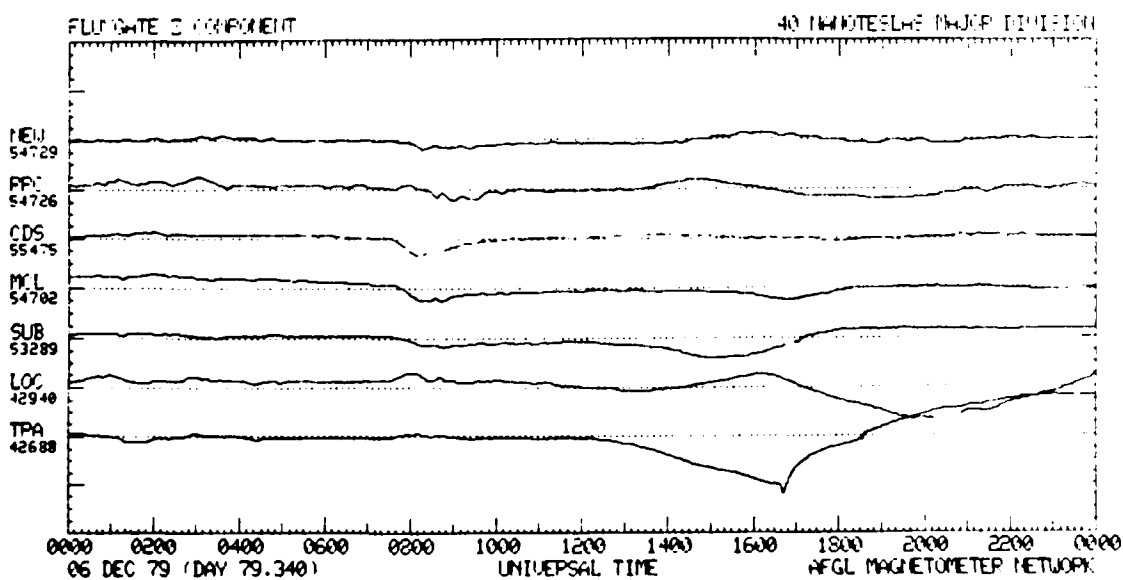
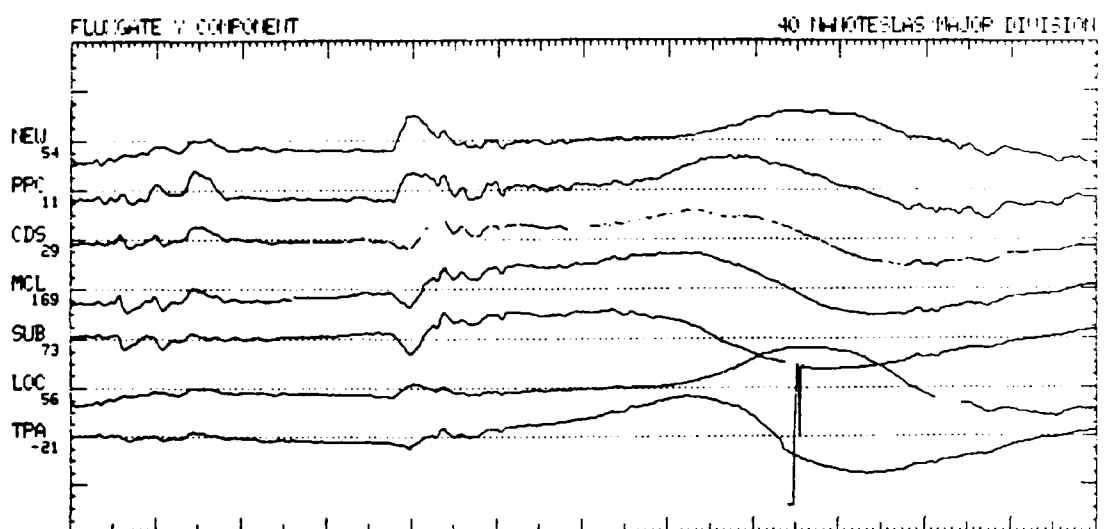
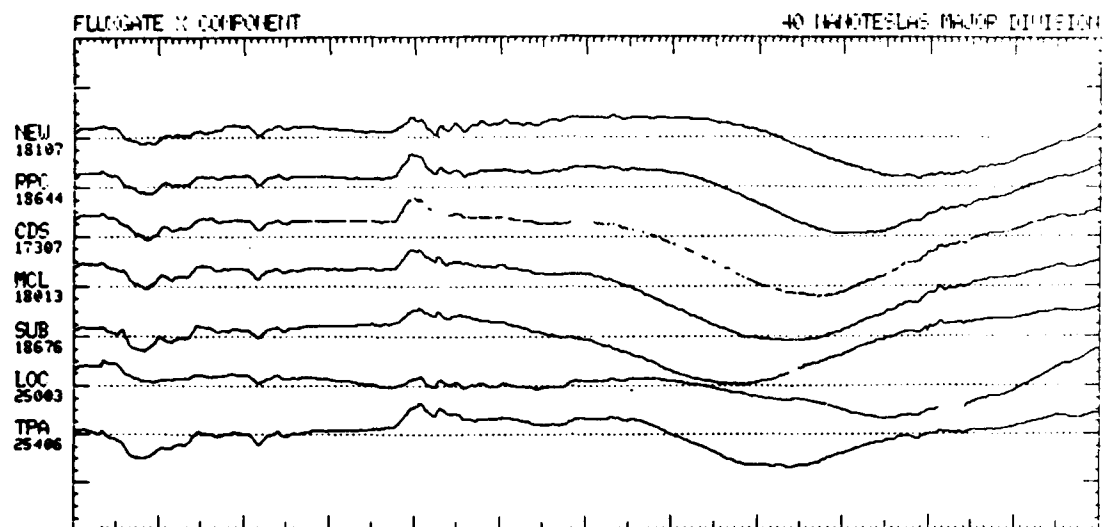


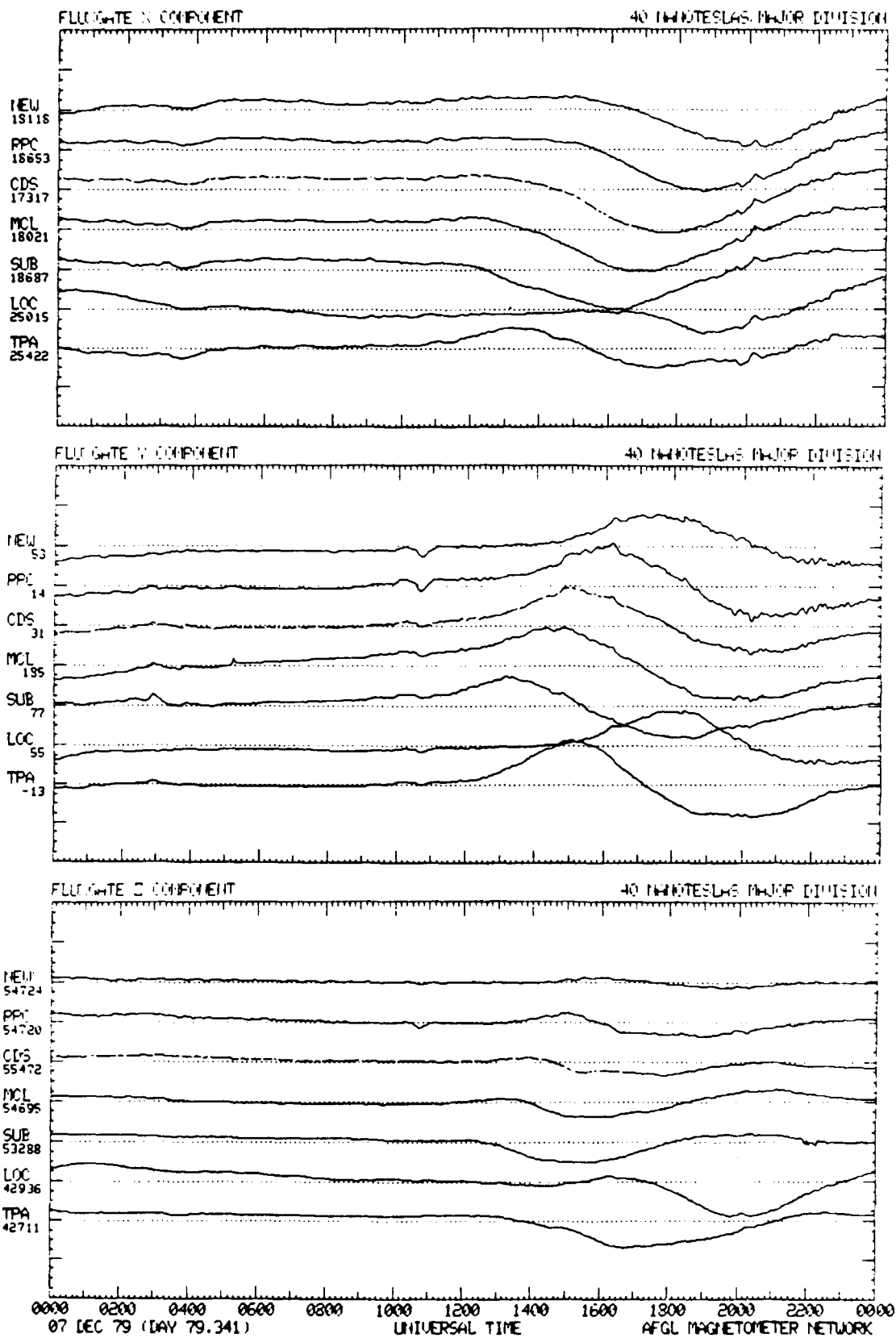


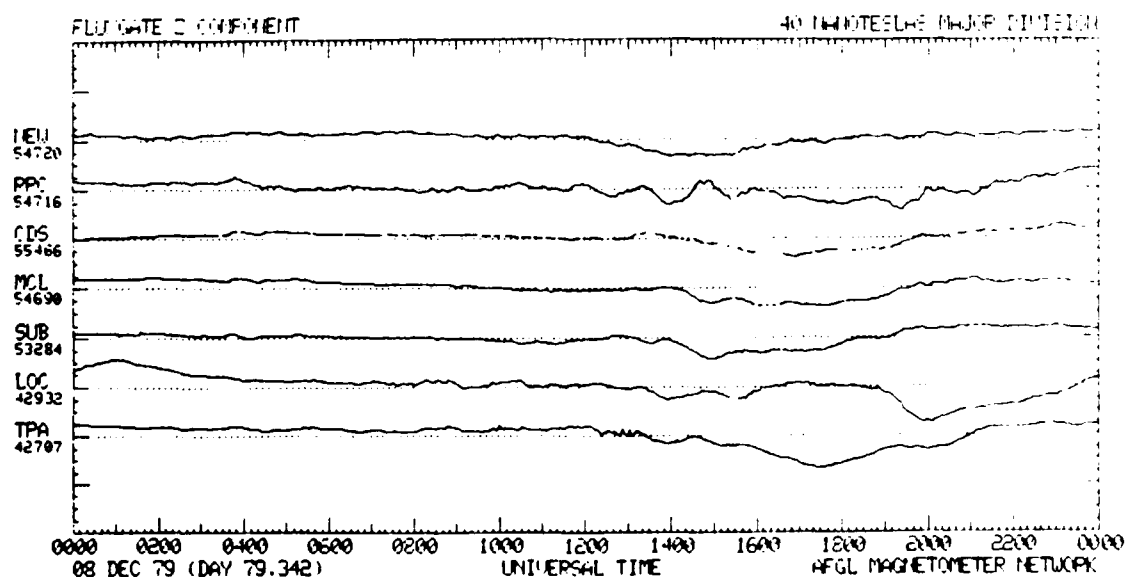
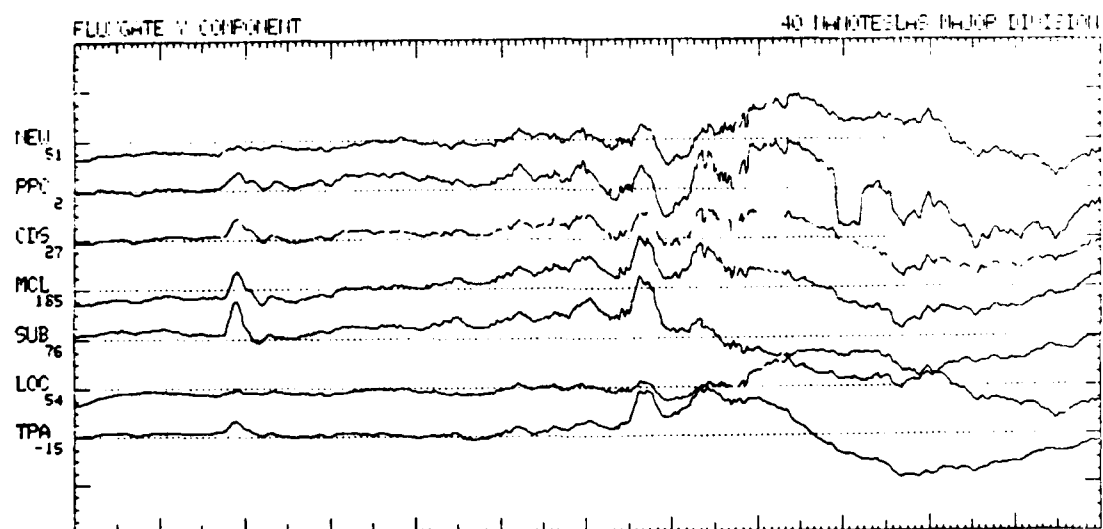
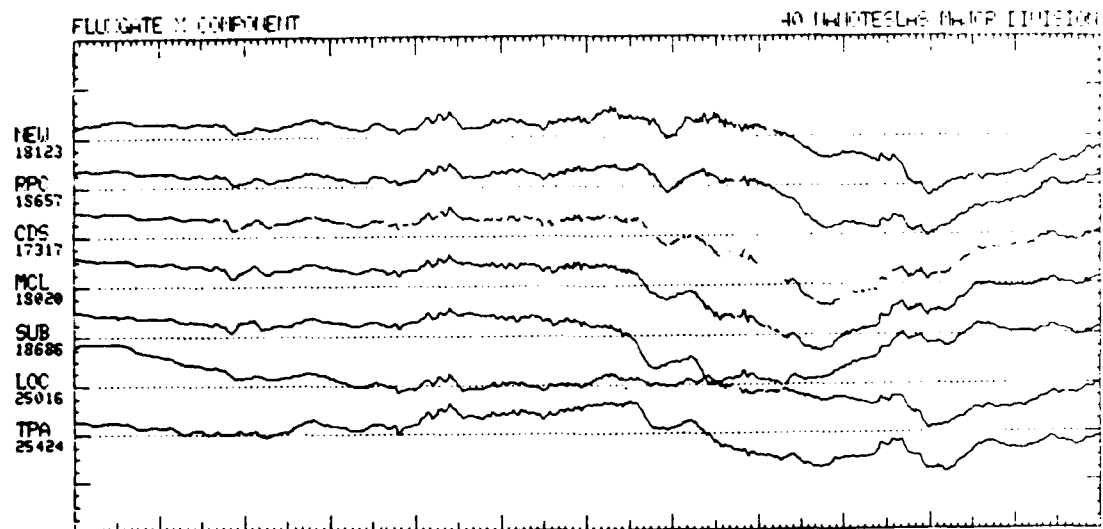


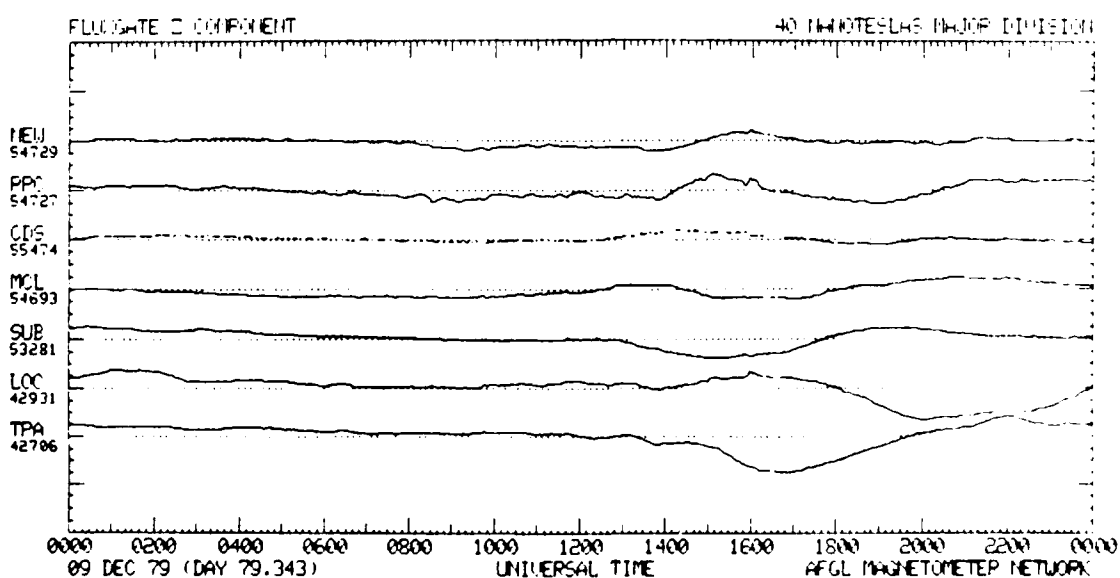
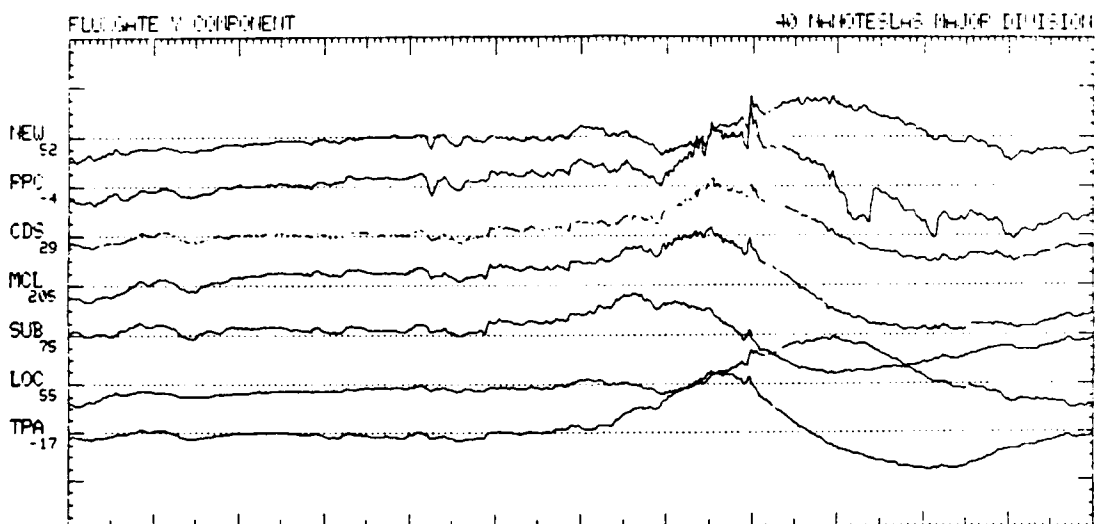
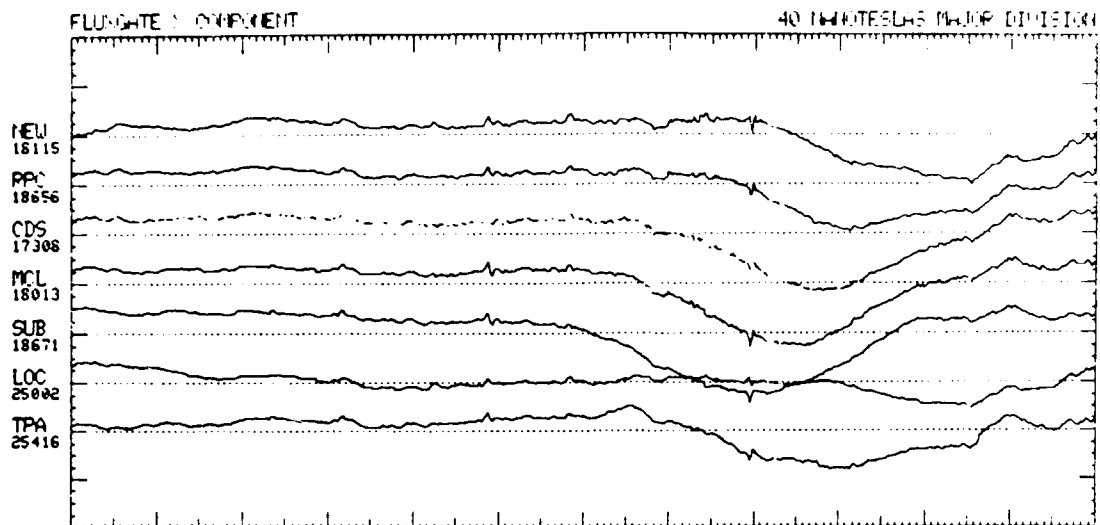




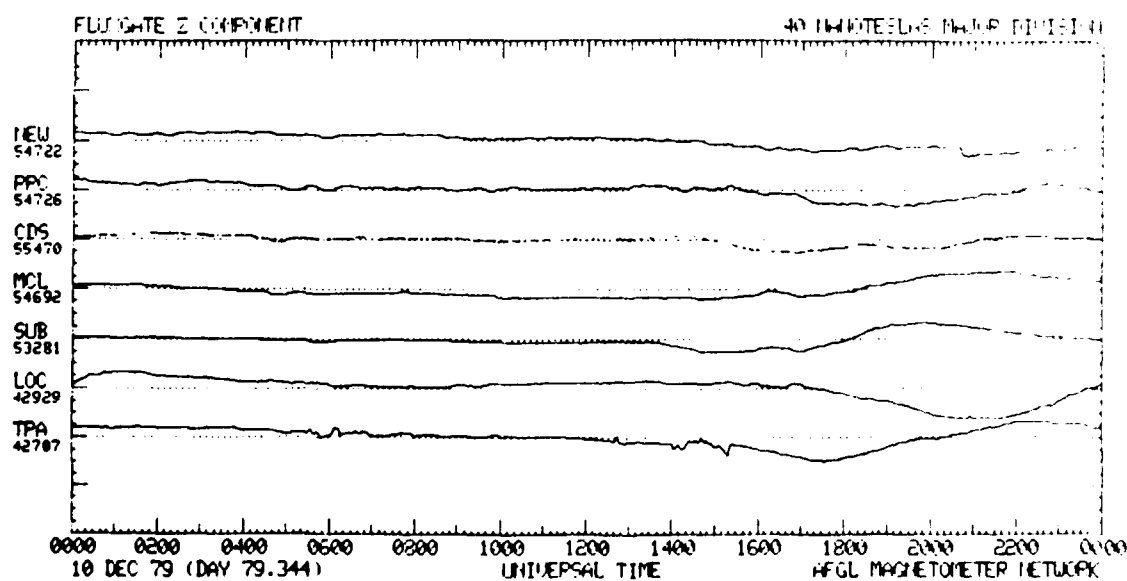
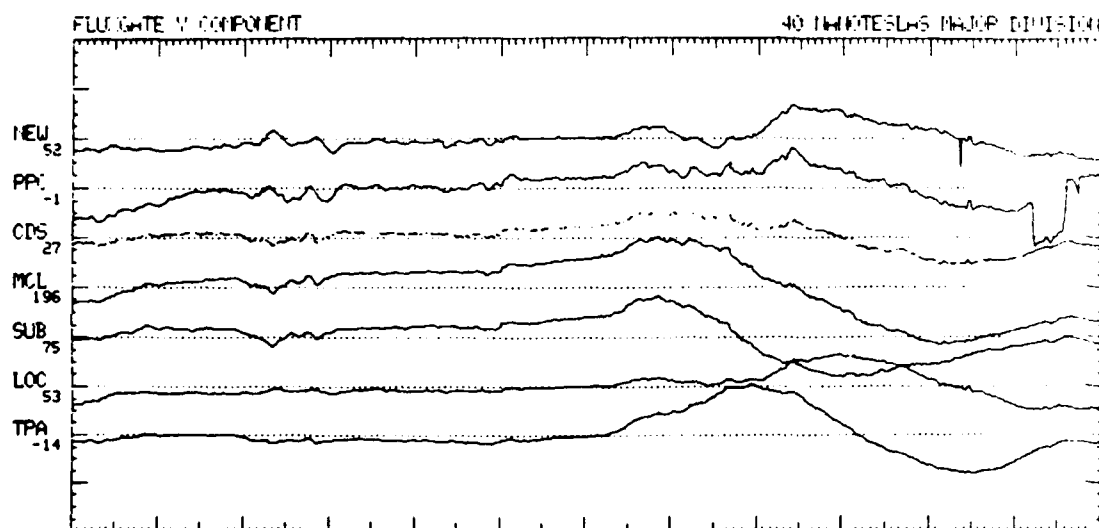
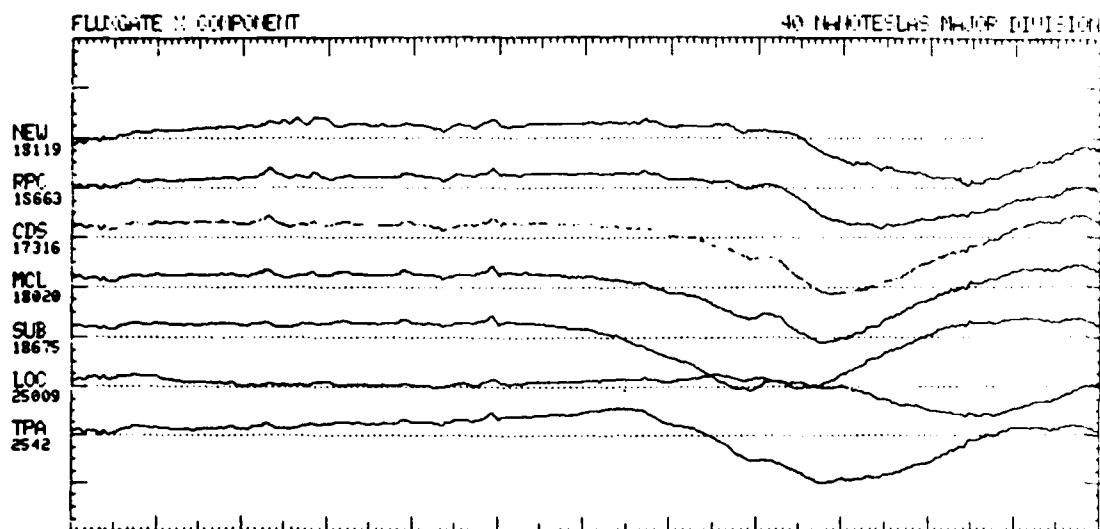


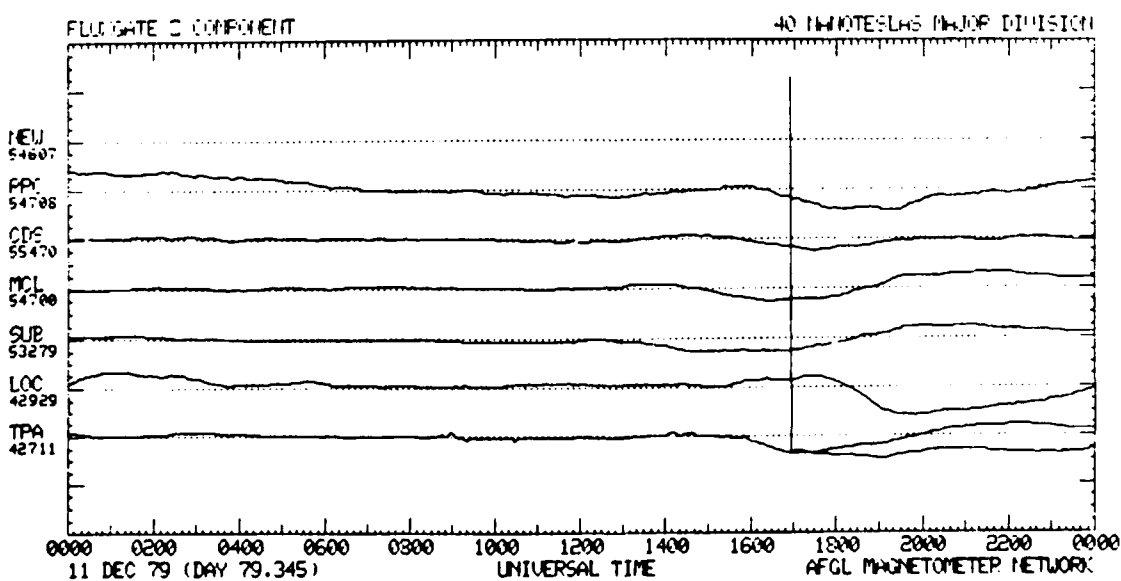
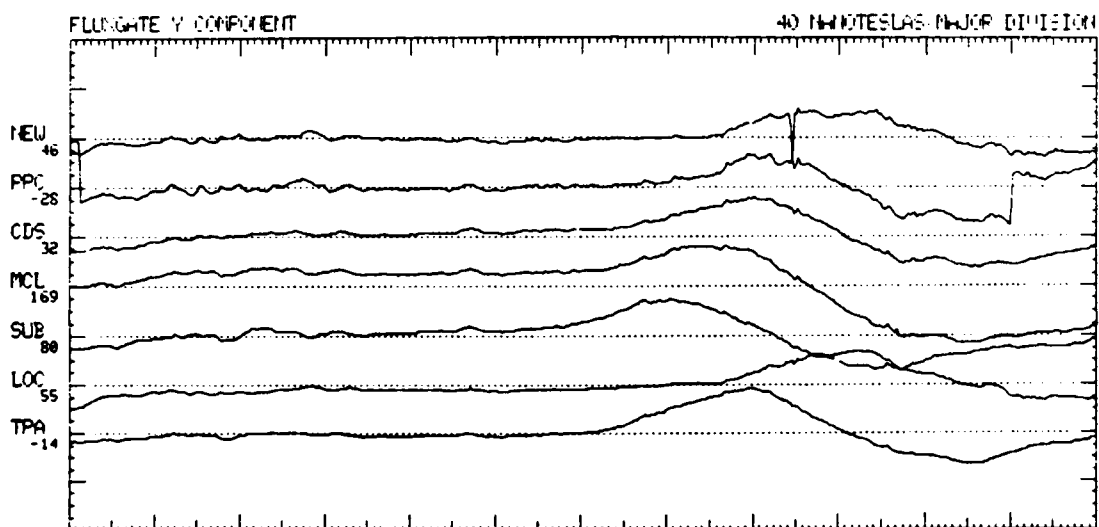
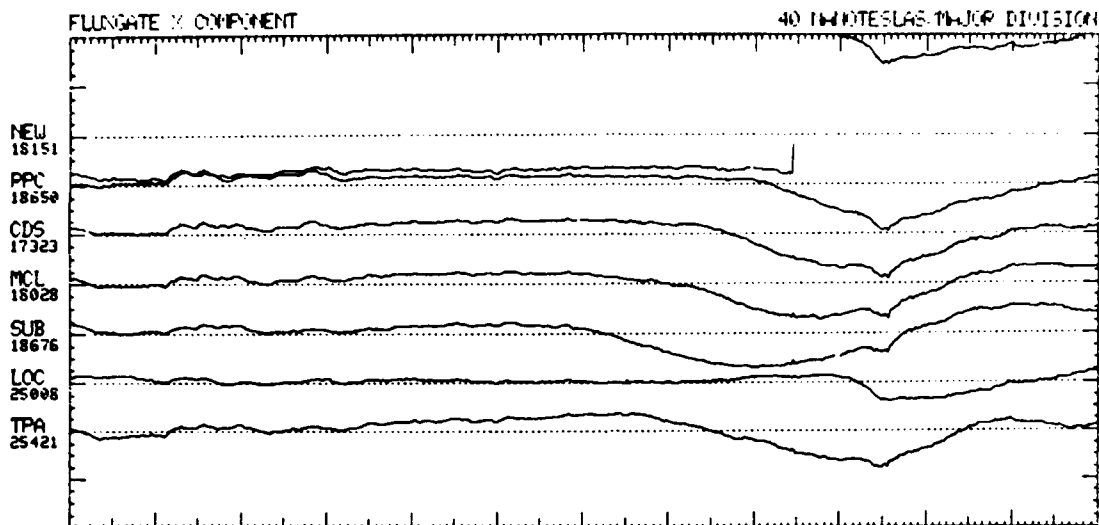


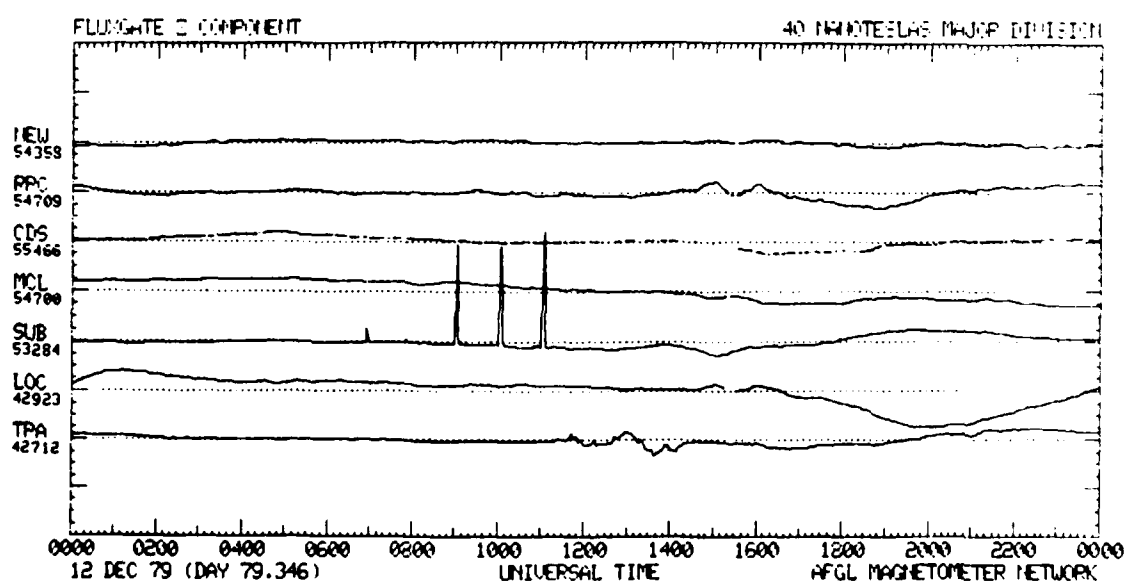
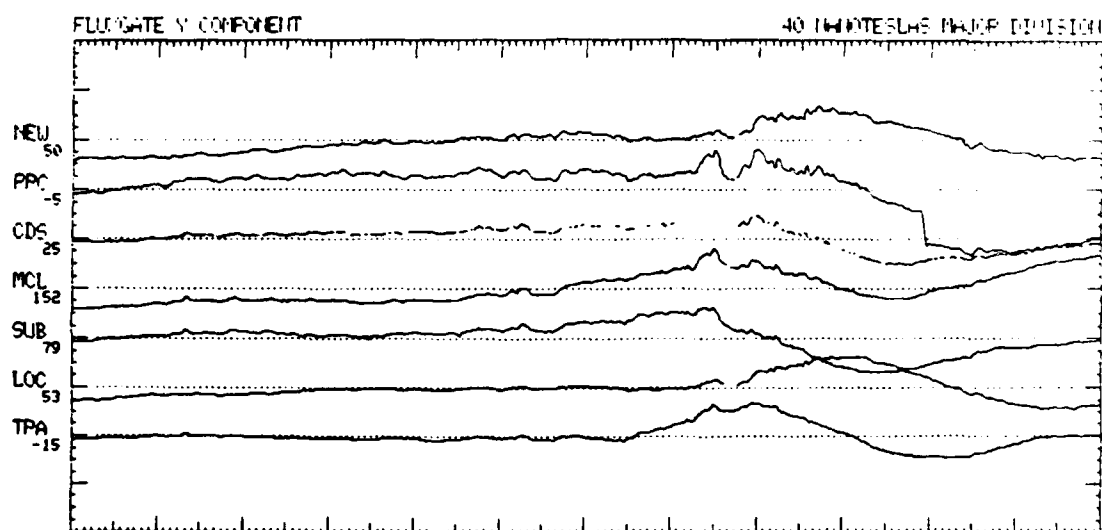
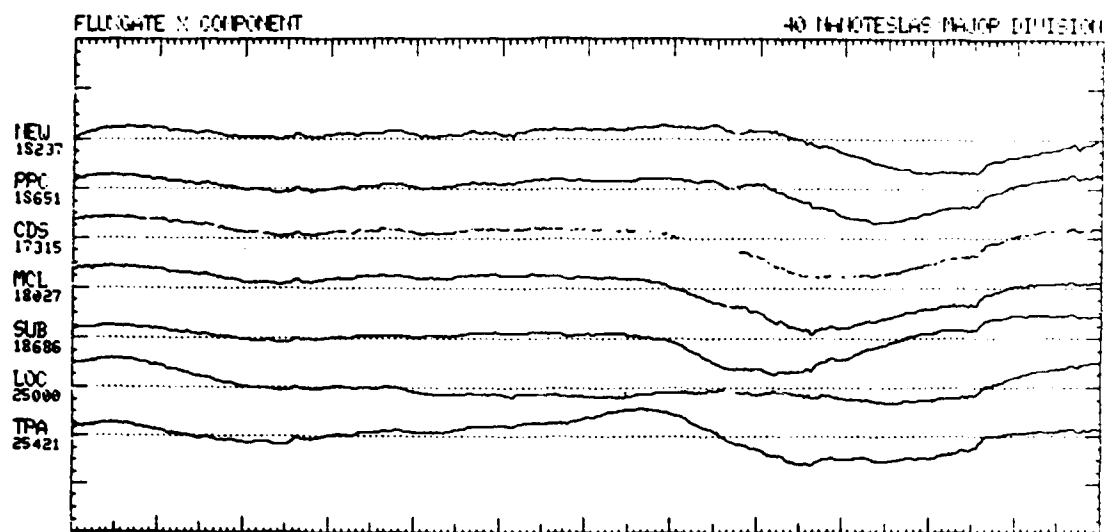


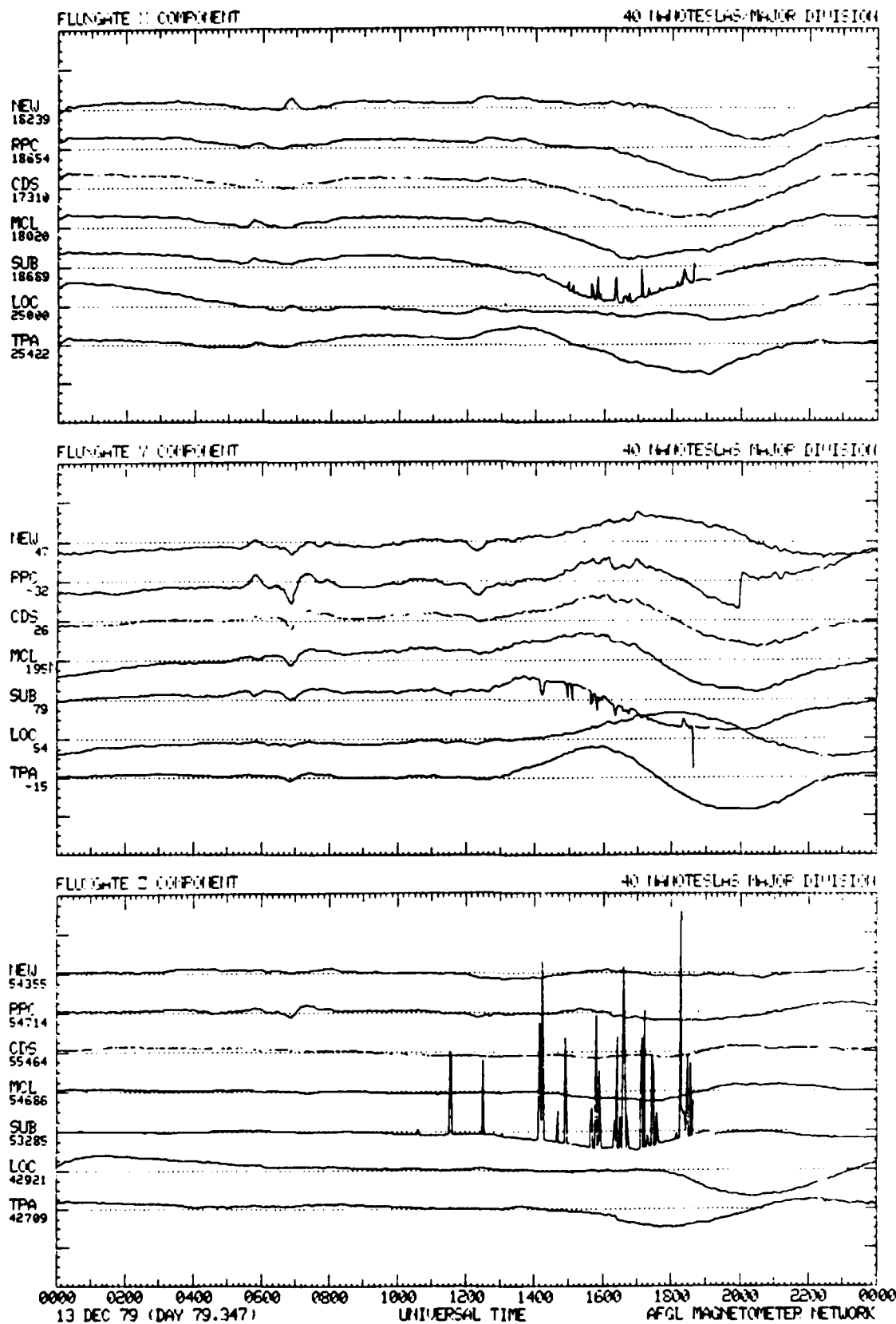


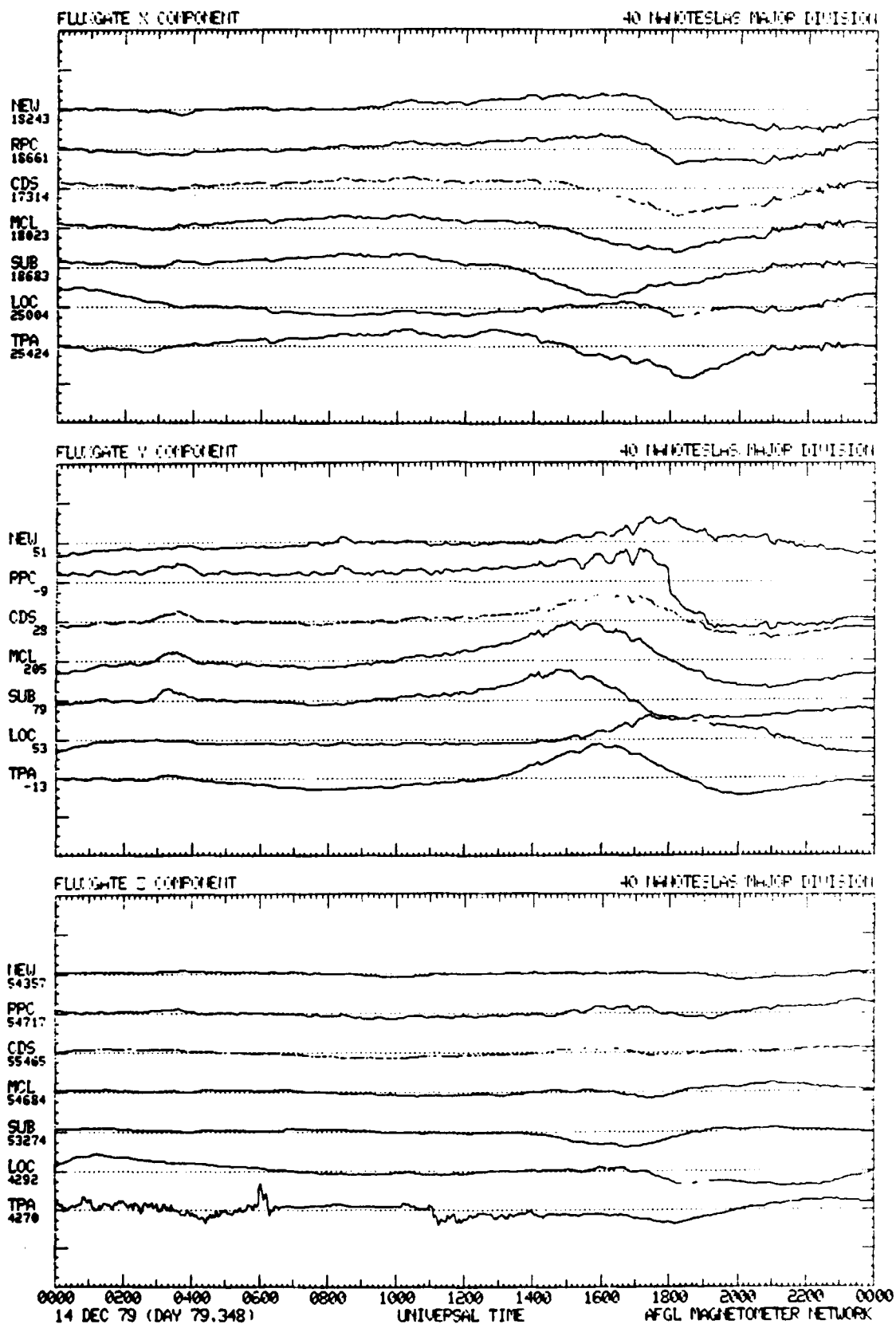
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09 DEC 79 (DAY 79.343) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

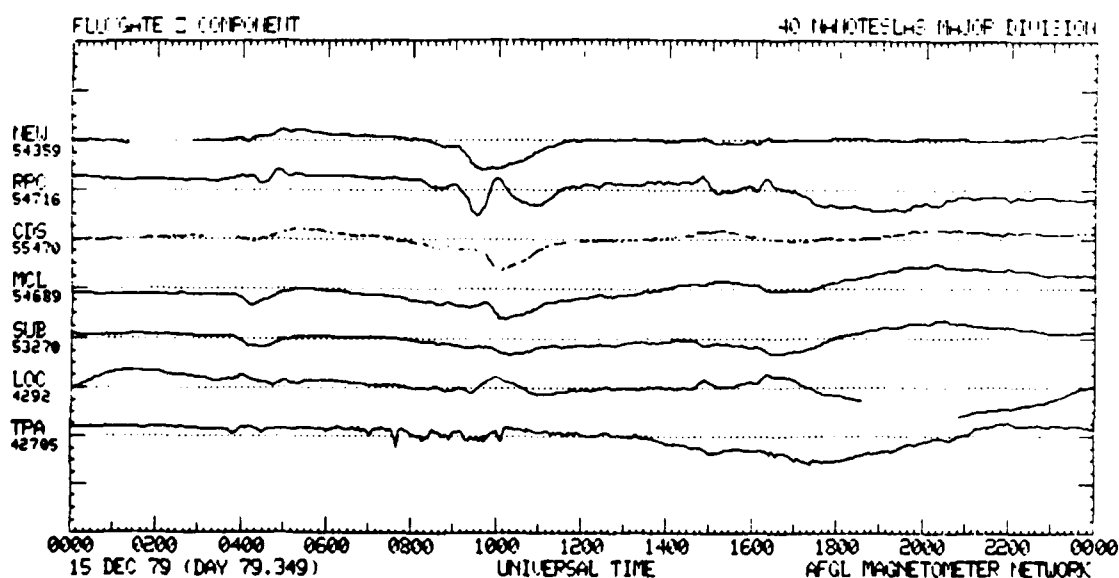
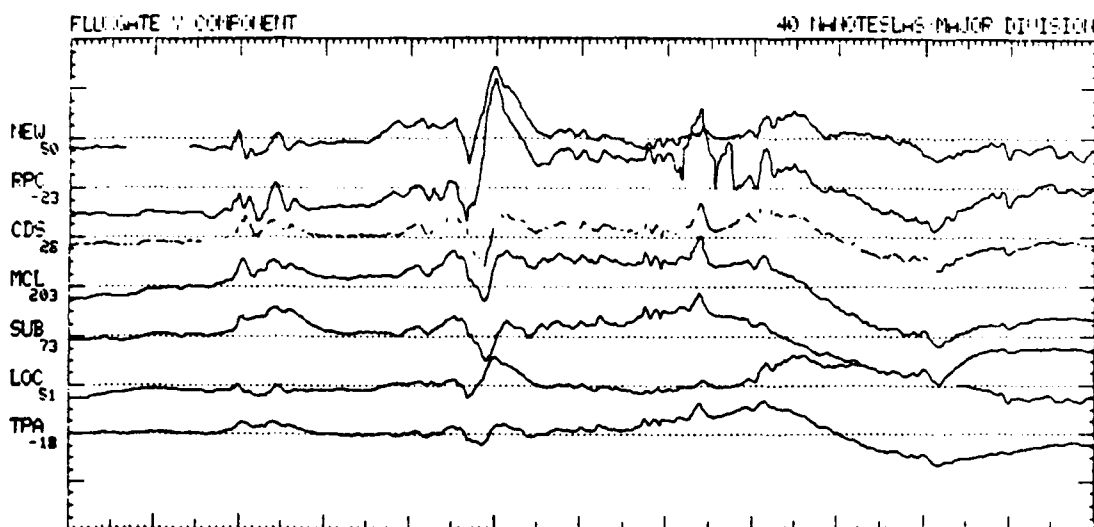
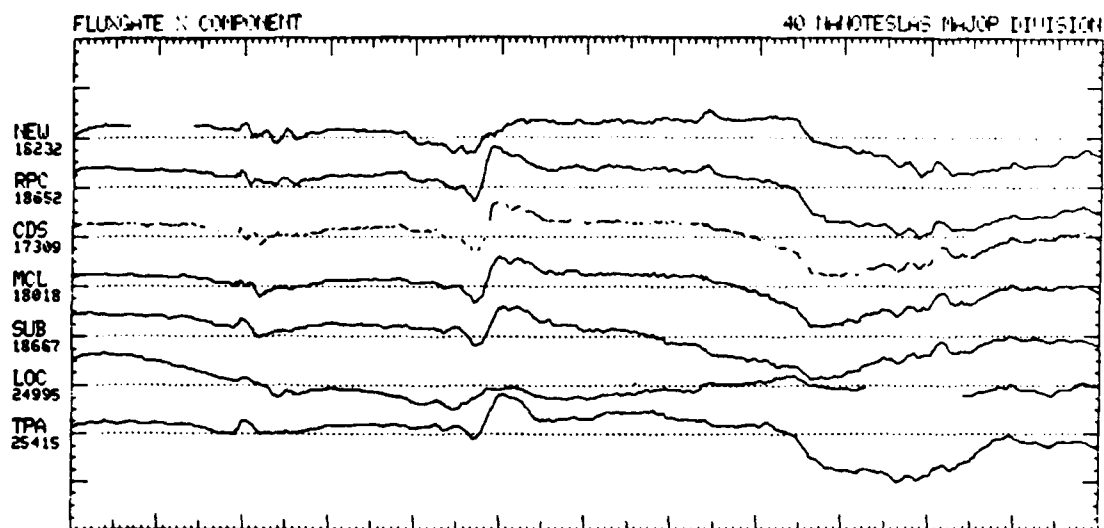


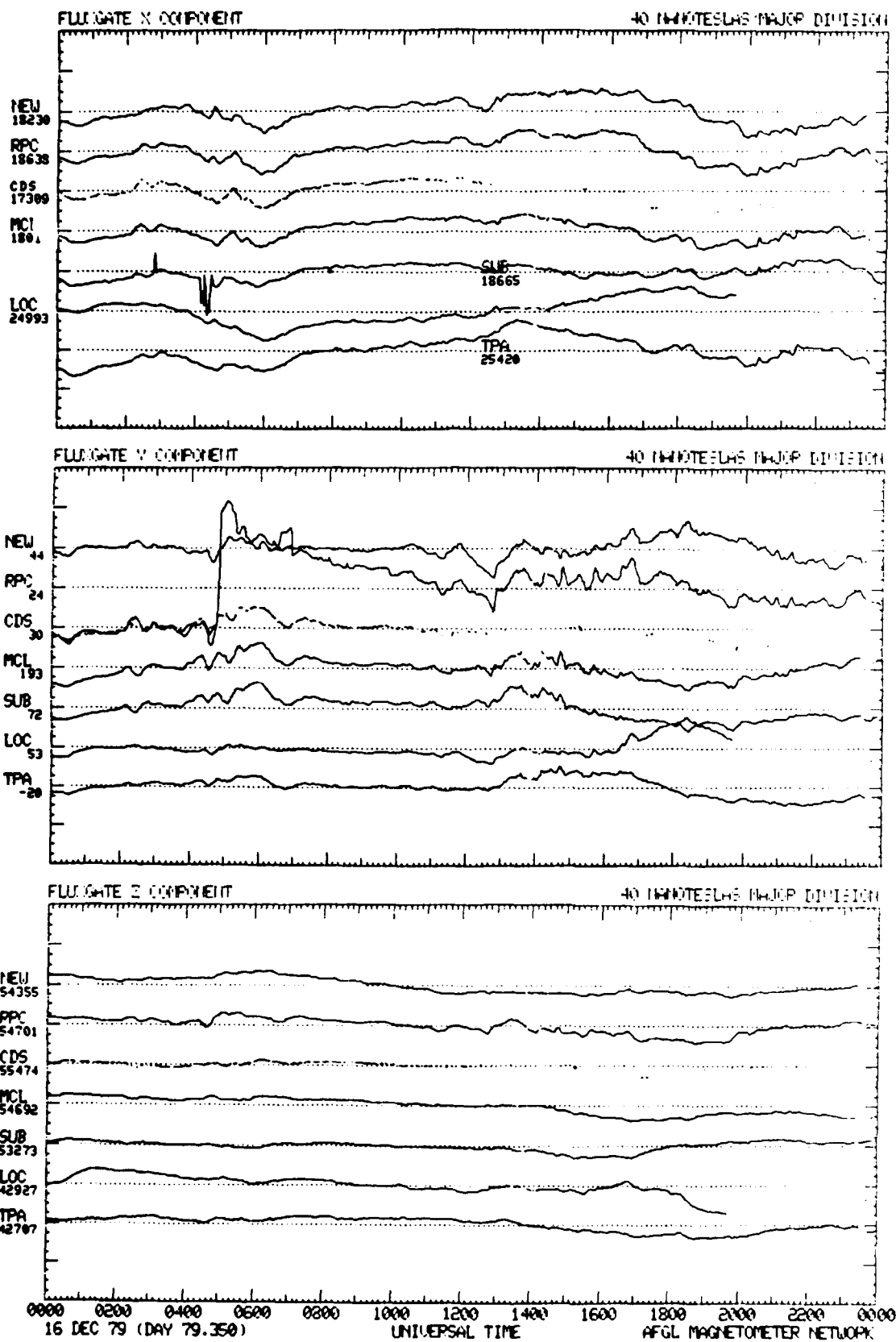


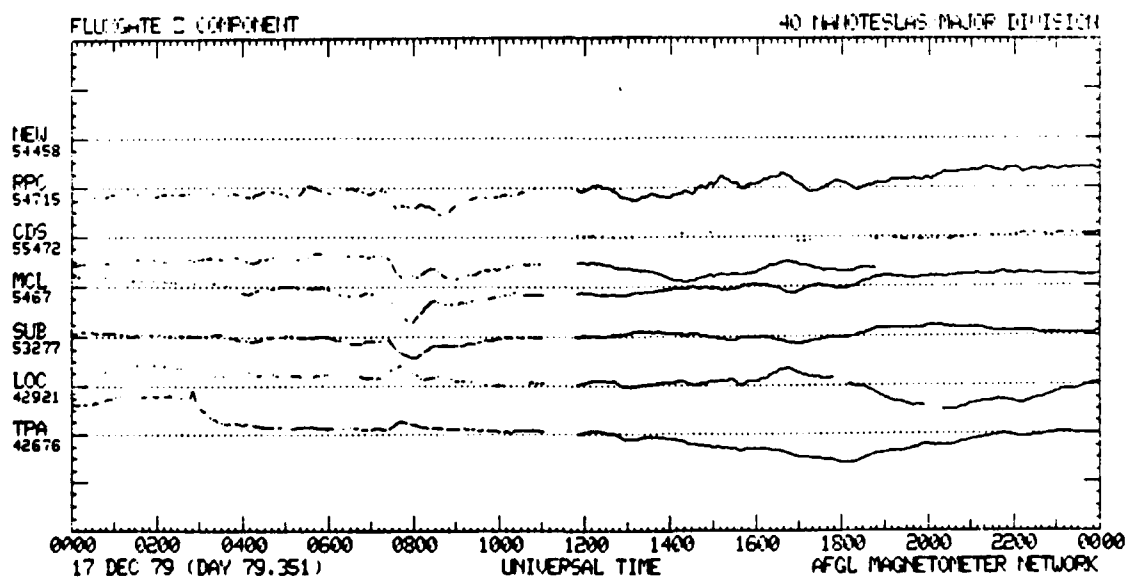
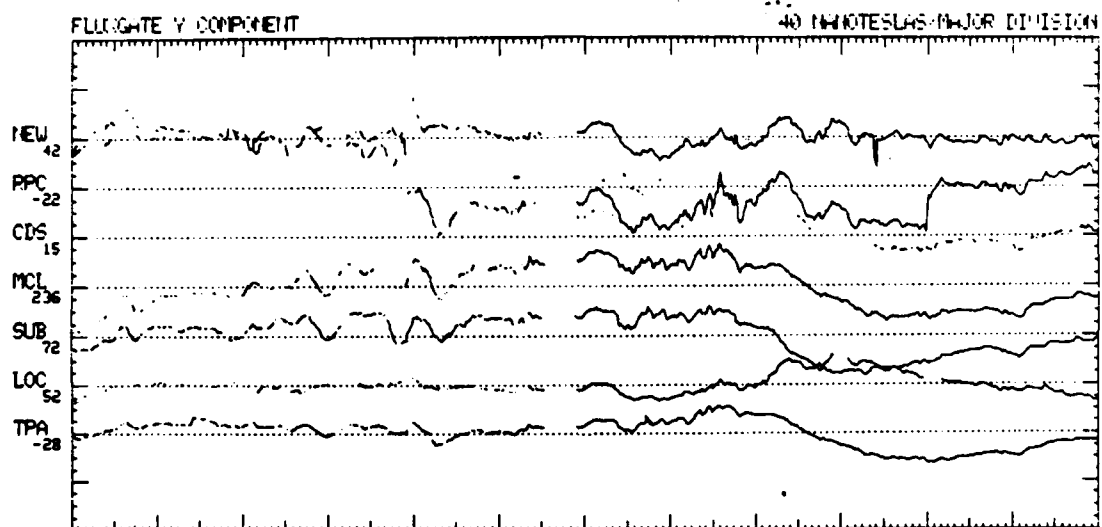
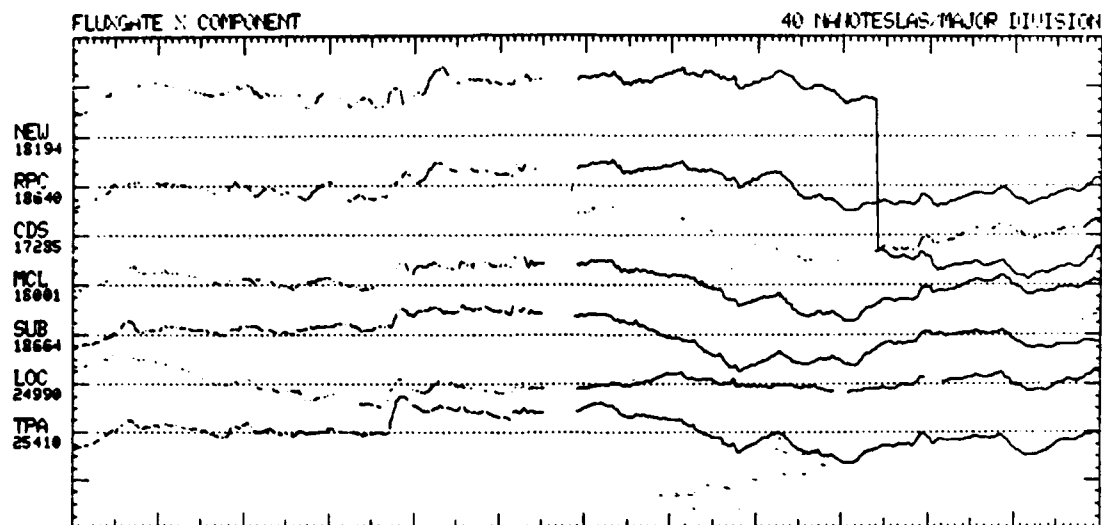


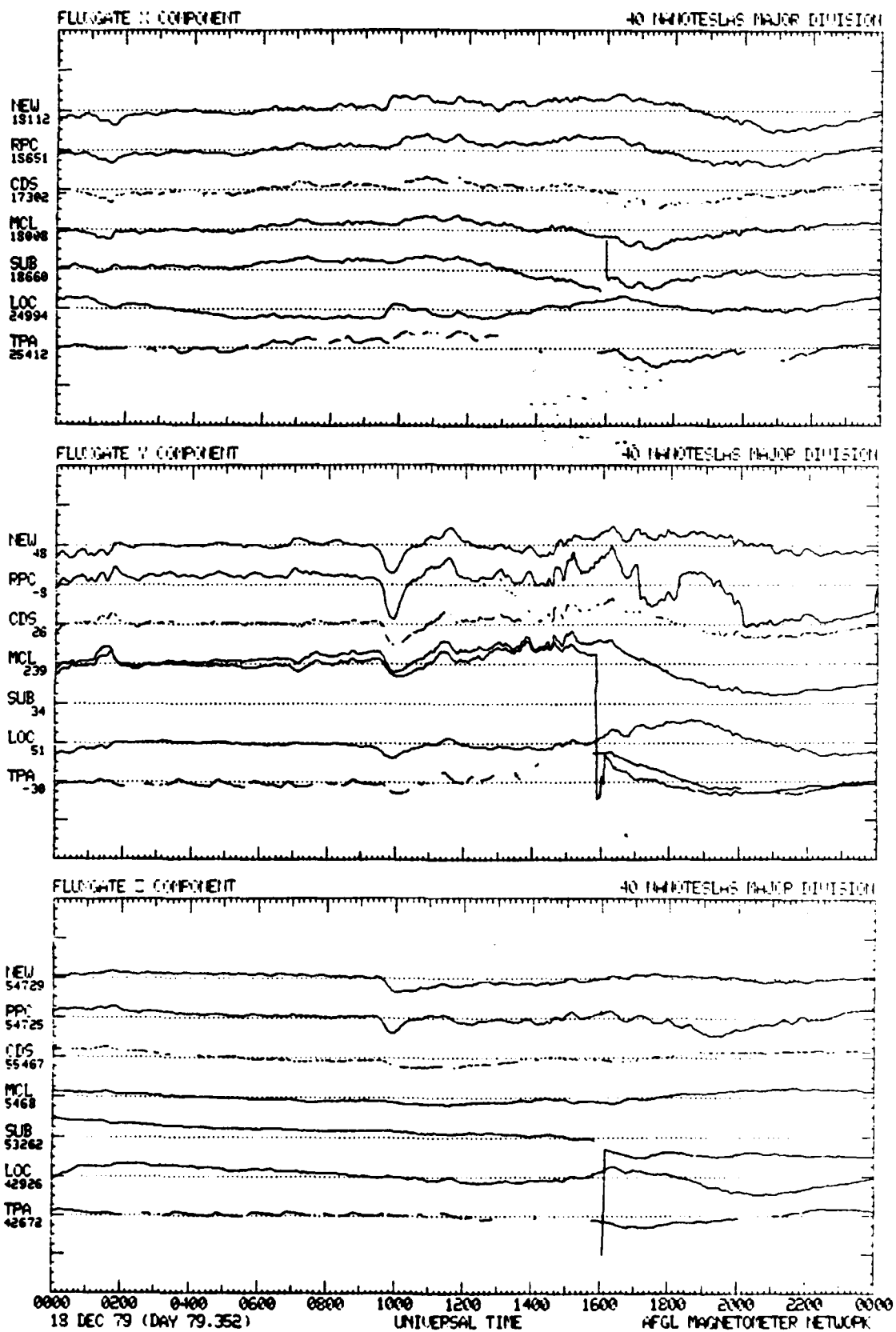


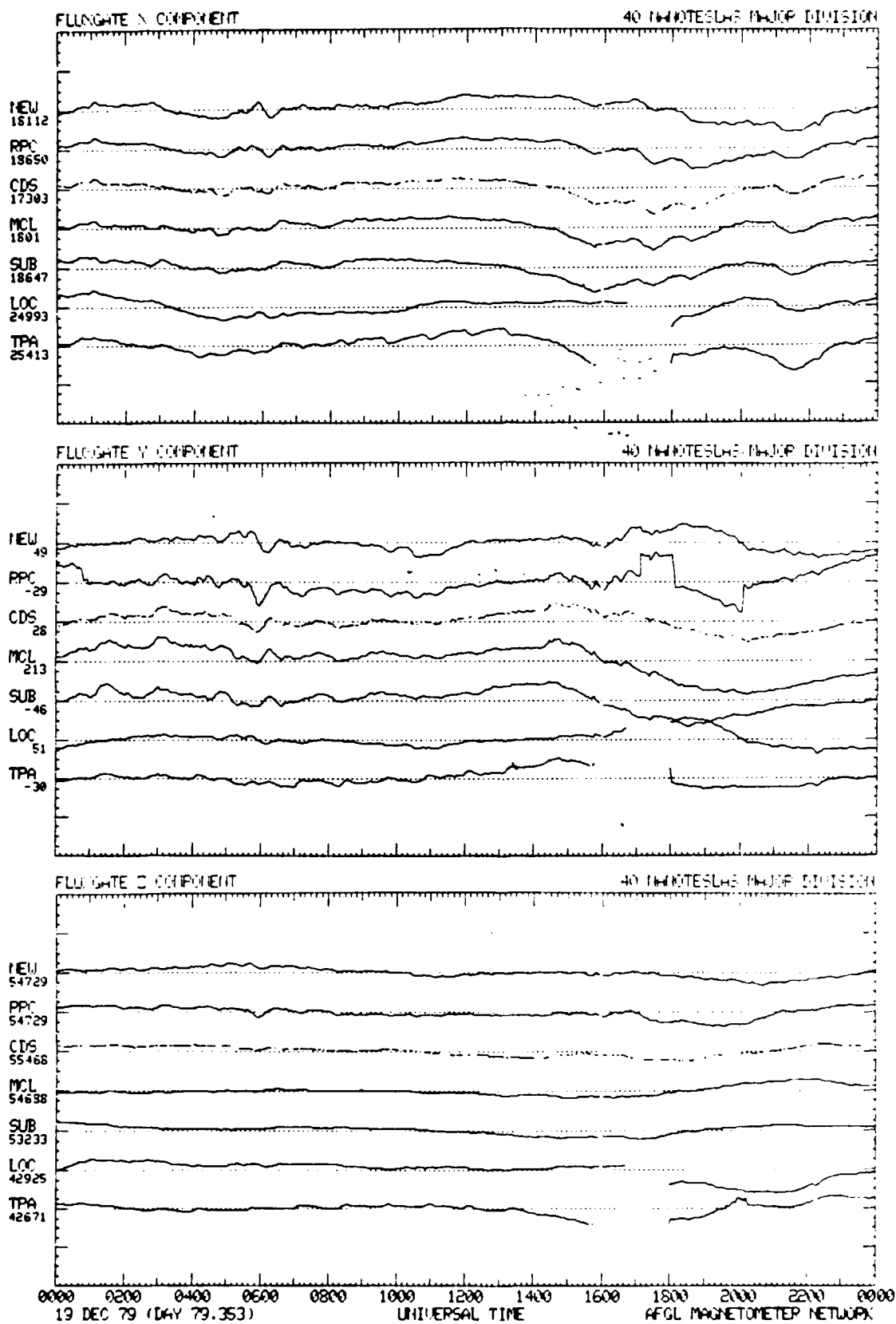


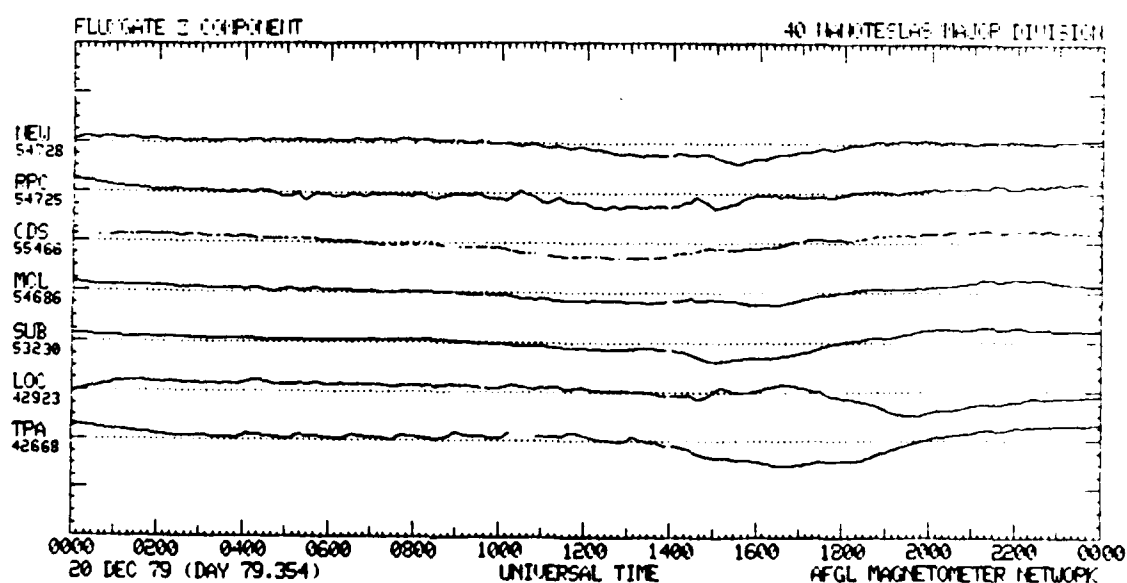
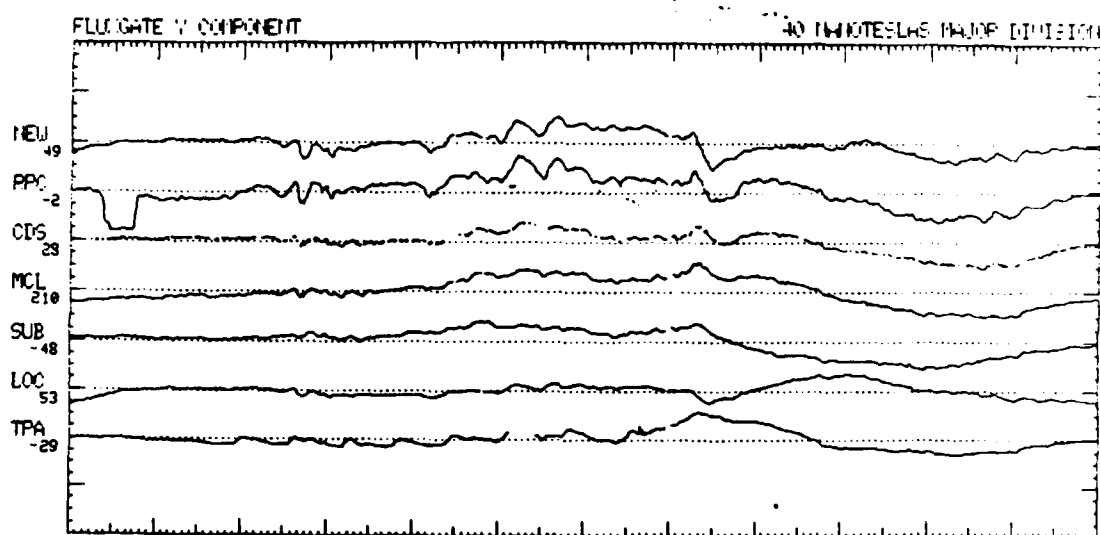
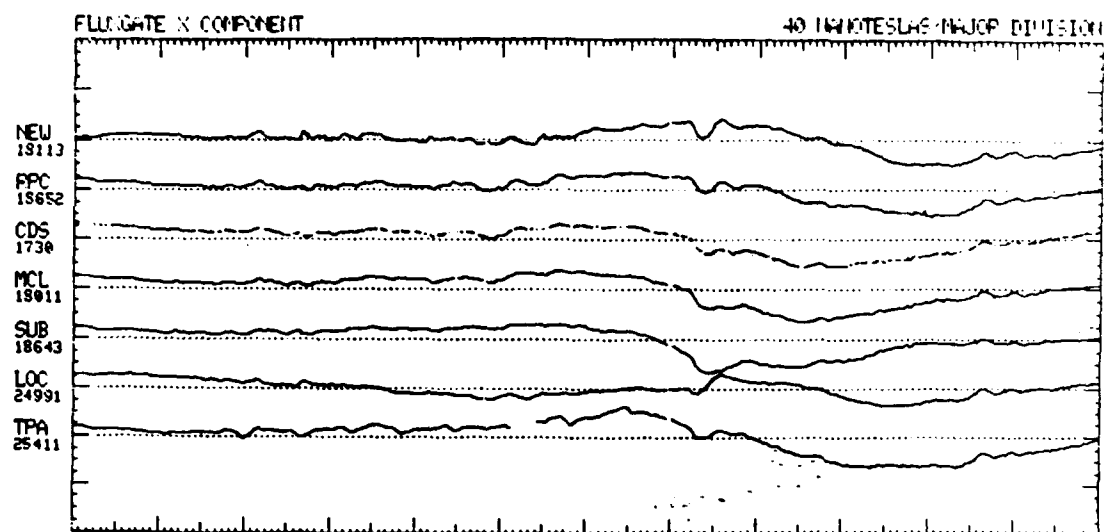


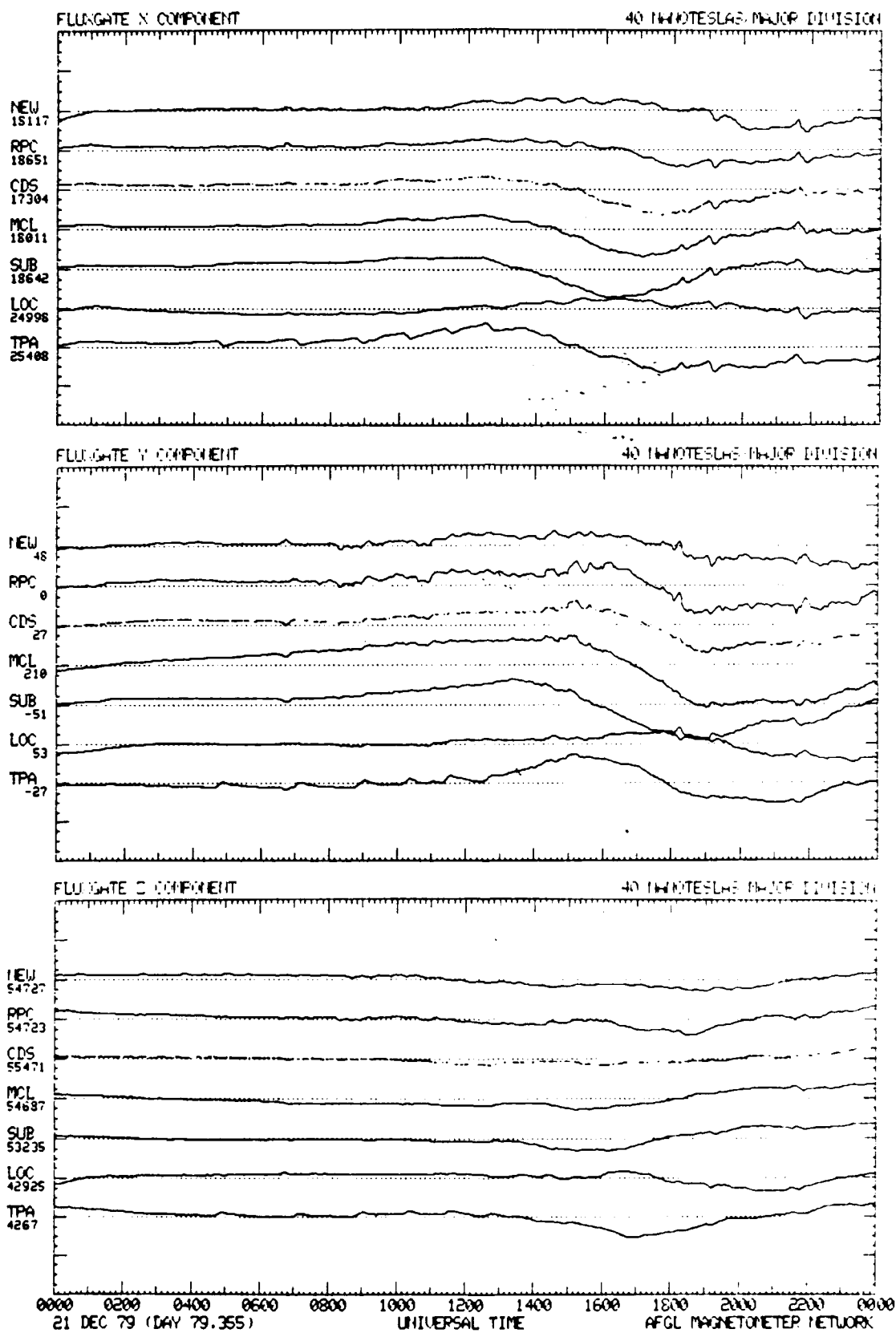


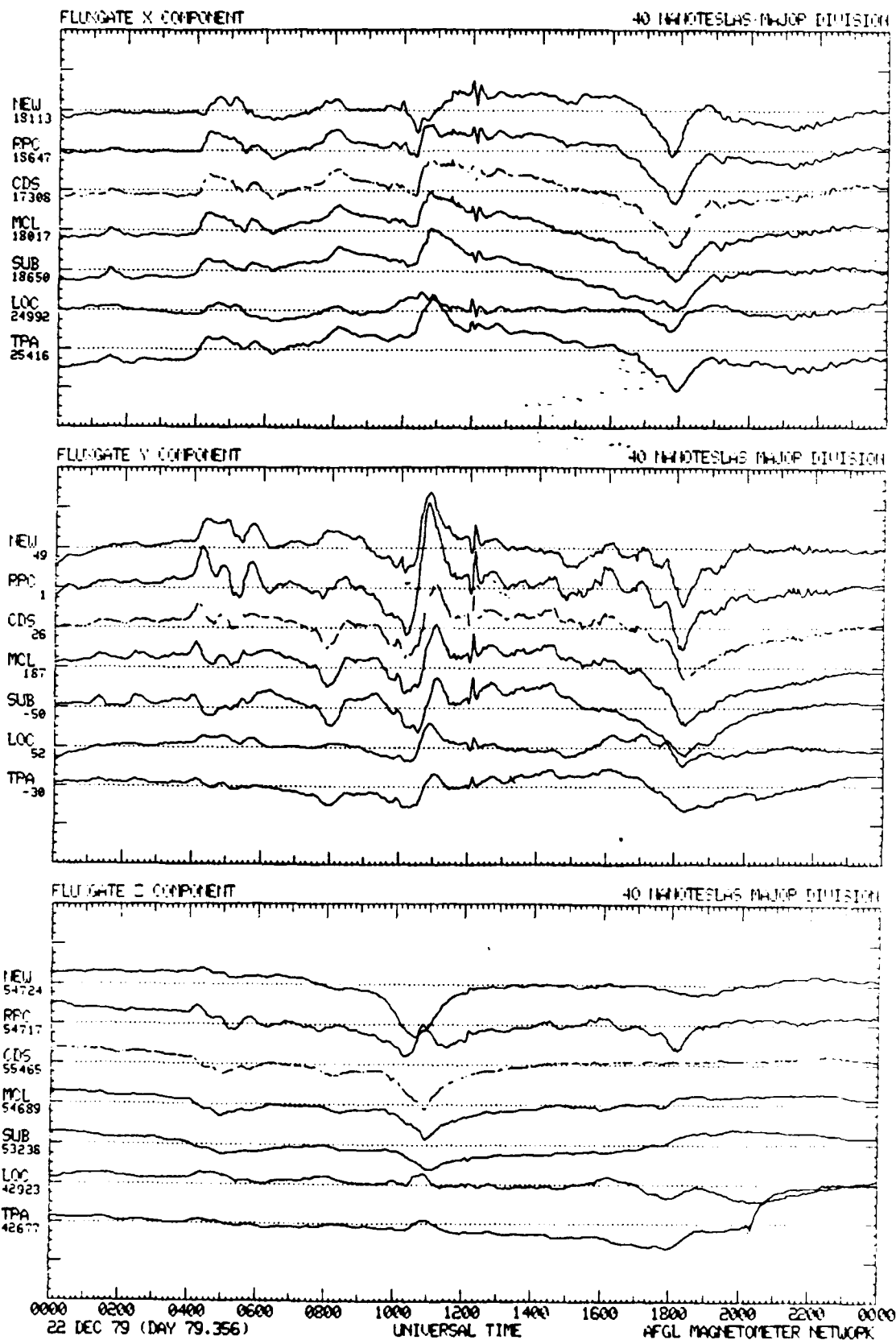


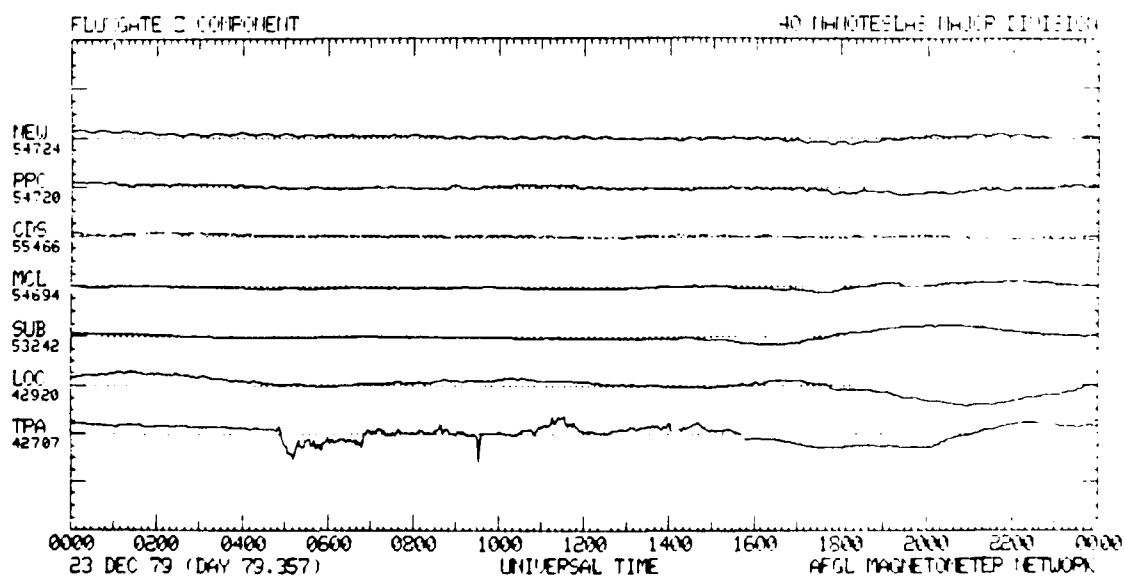
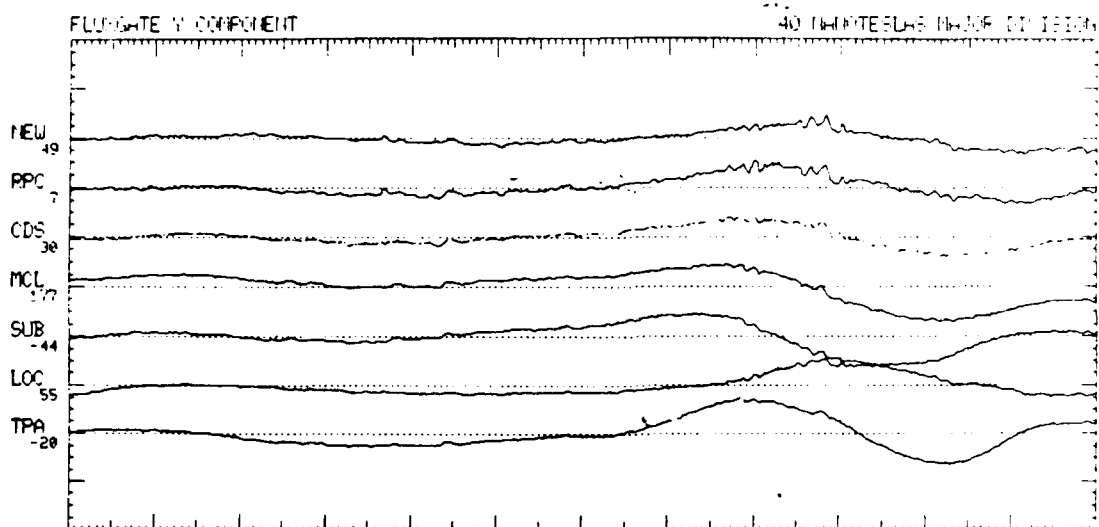
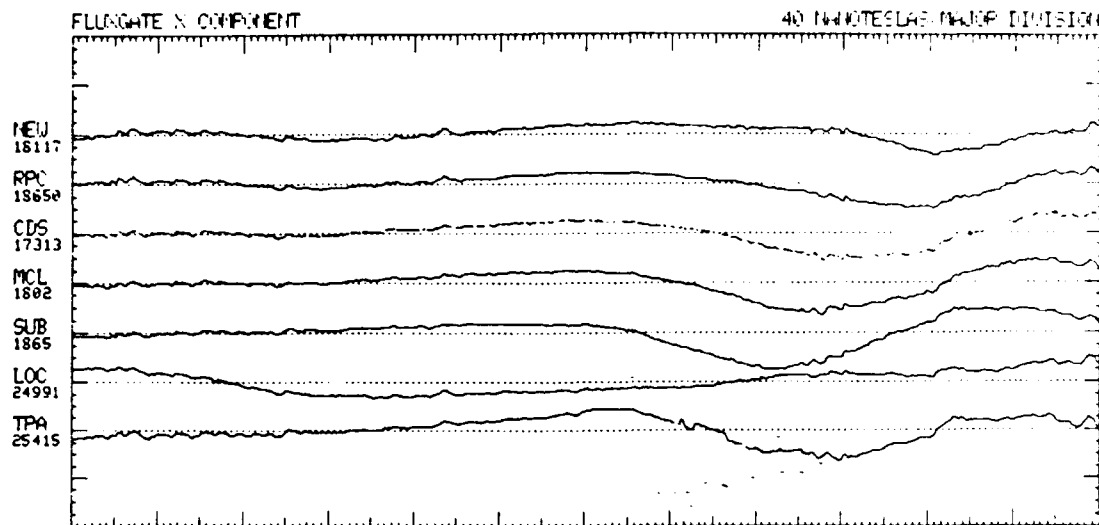


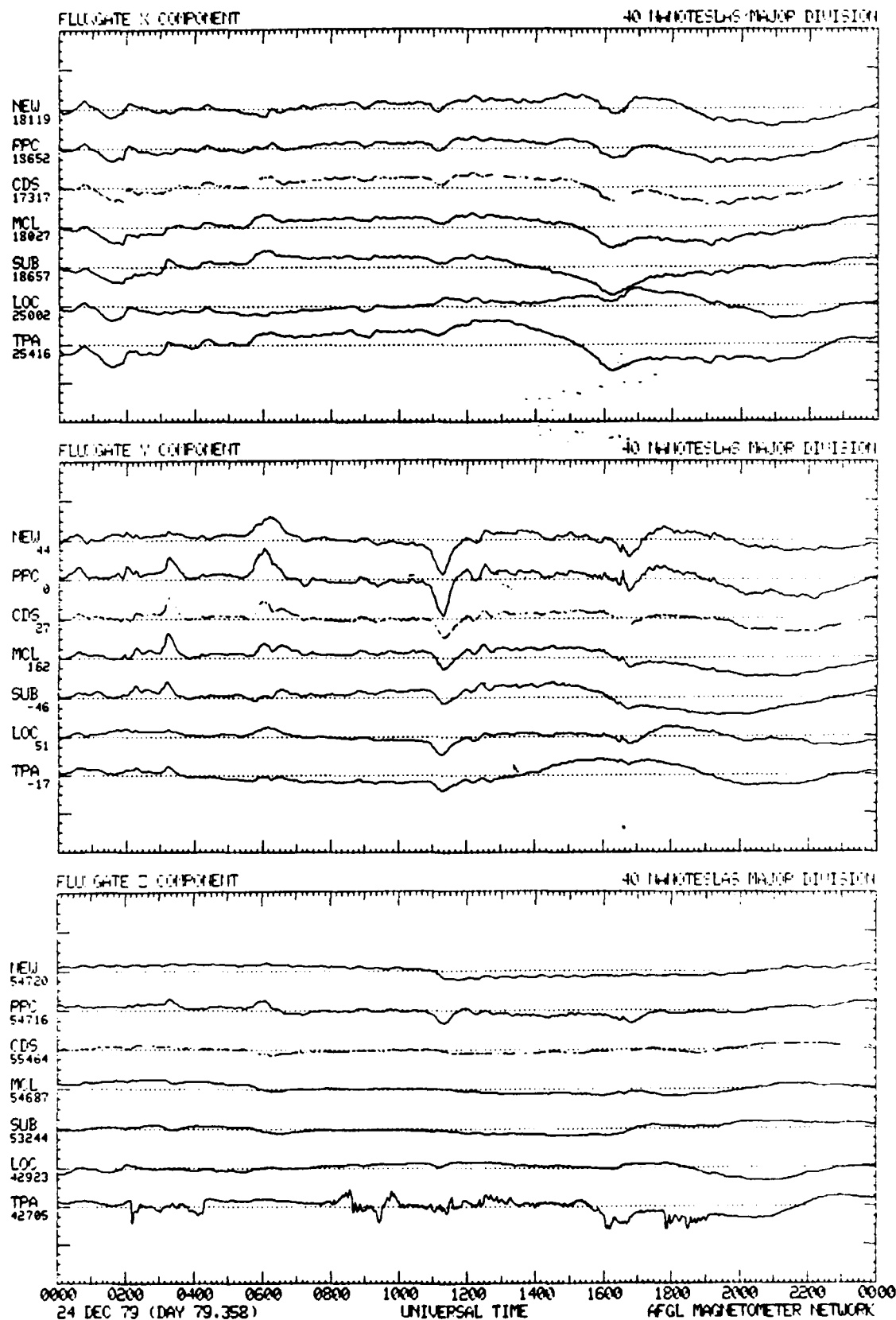


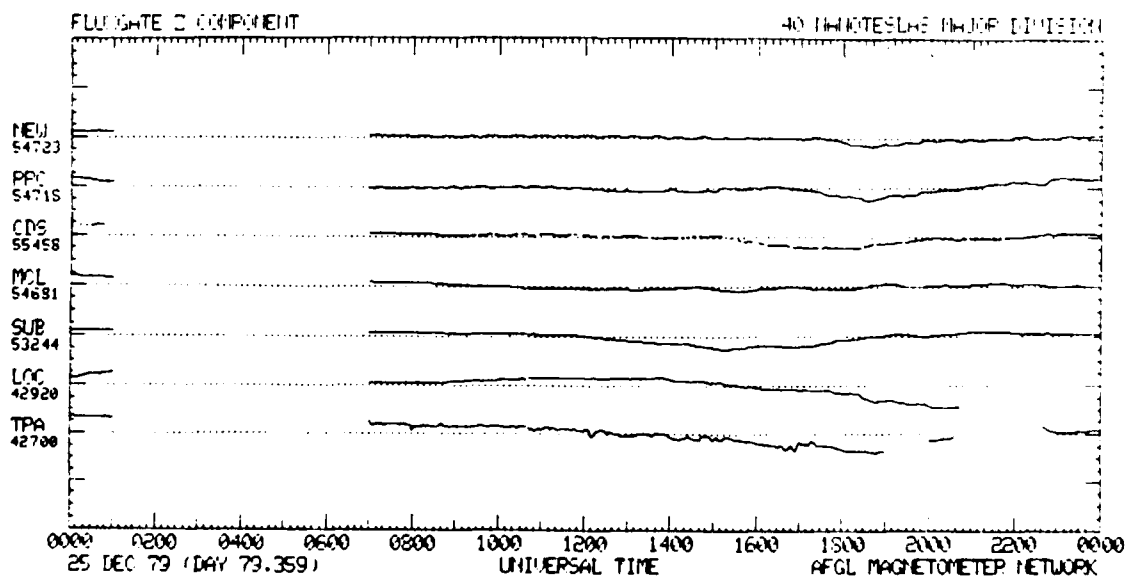
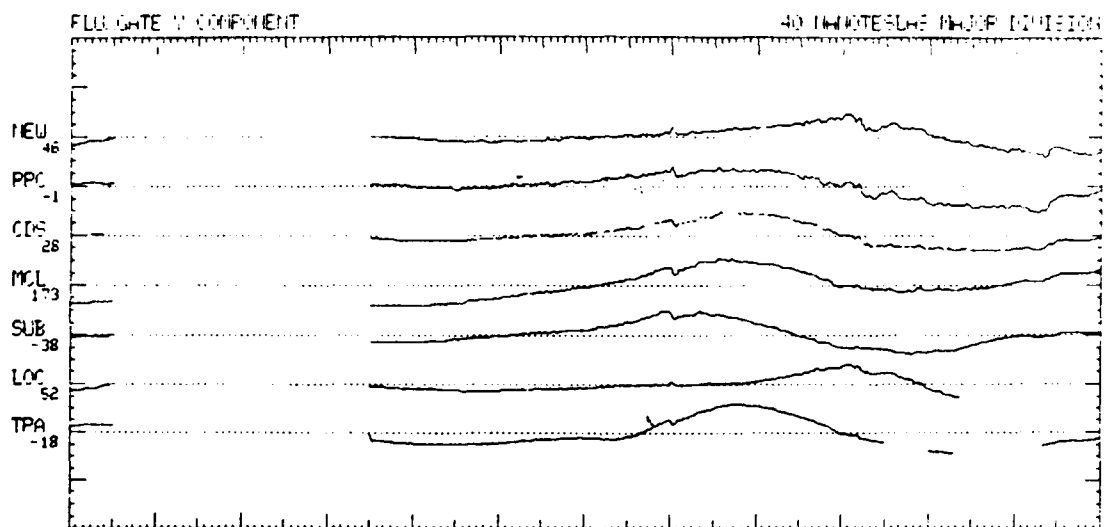
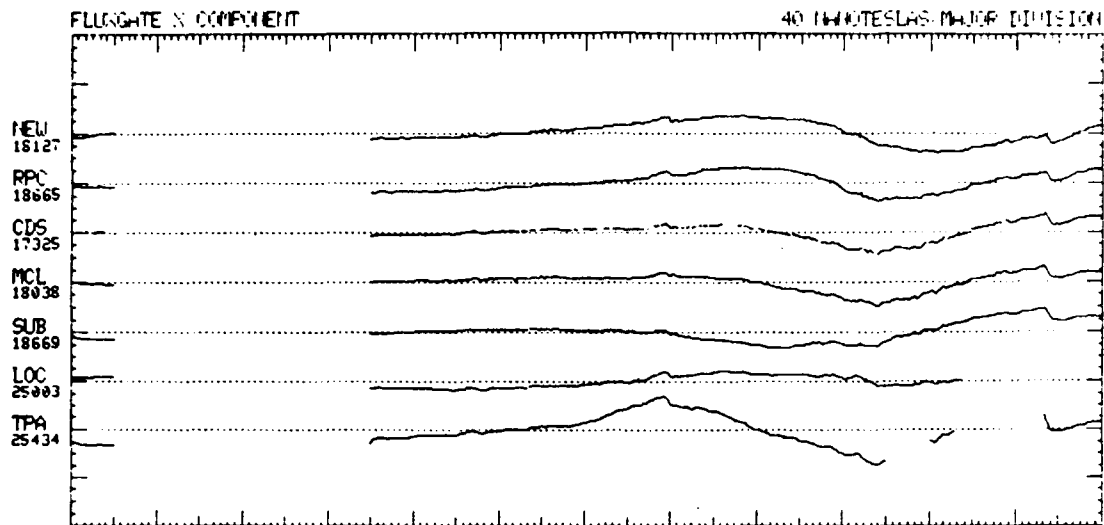


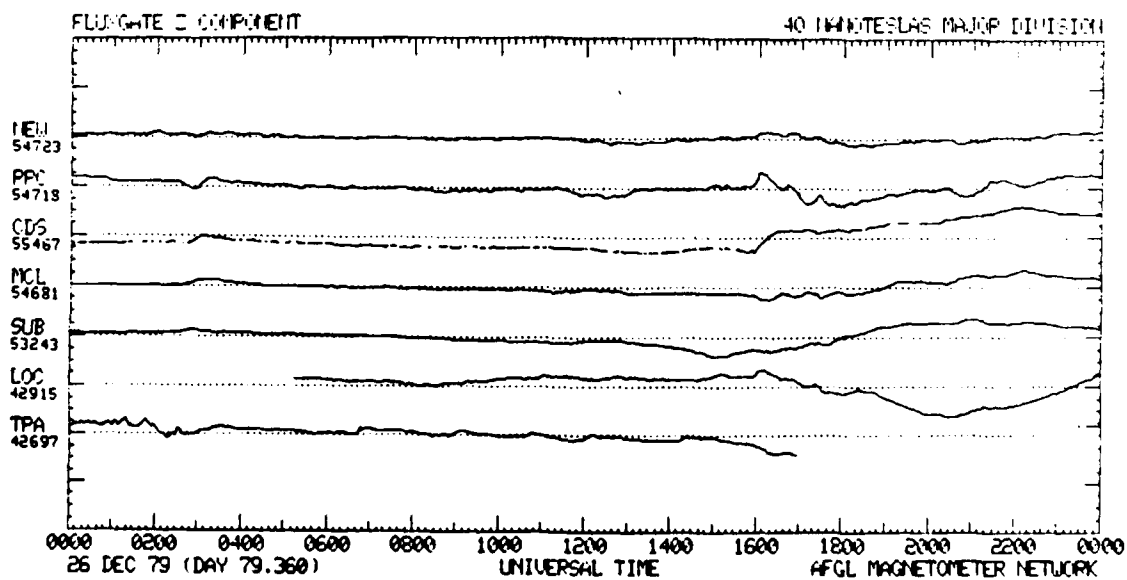
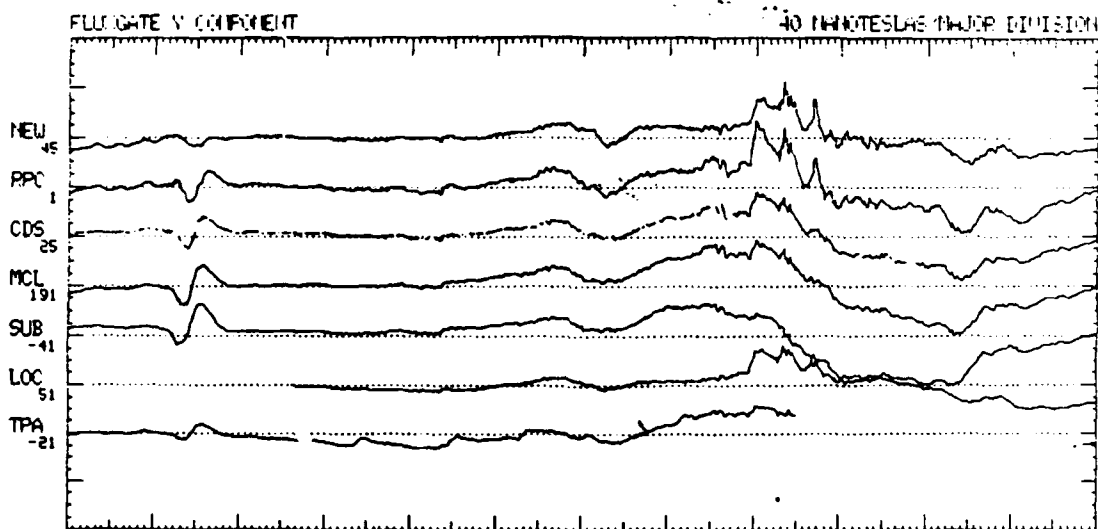
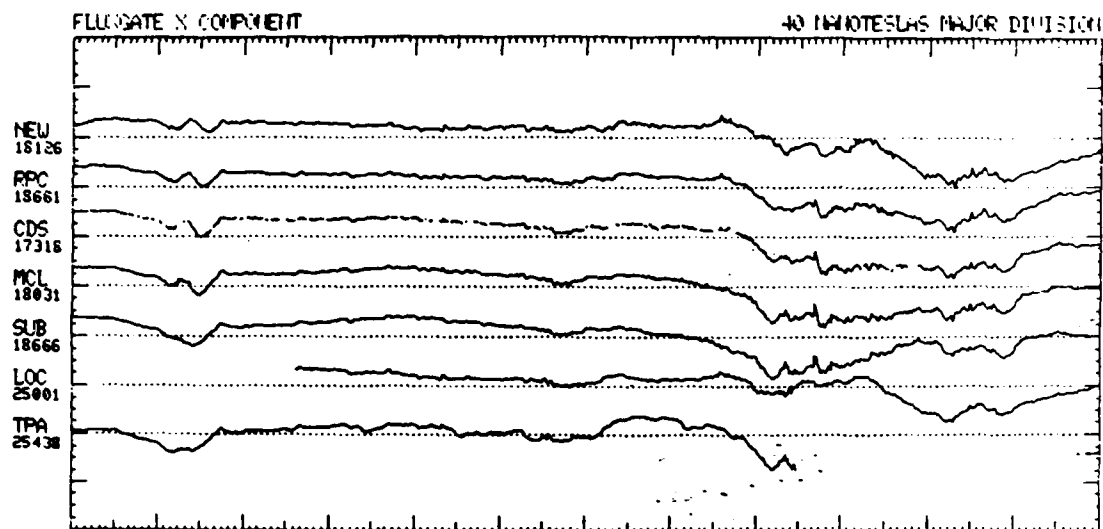


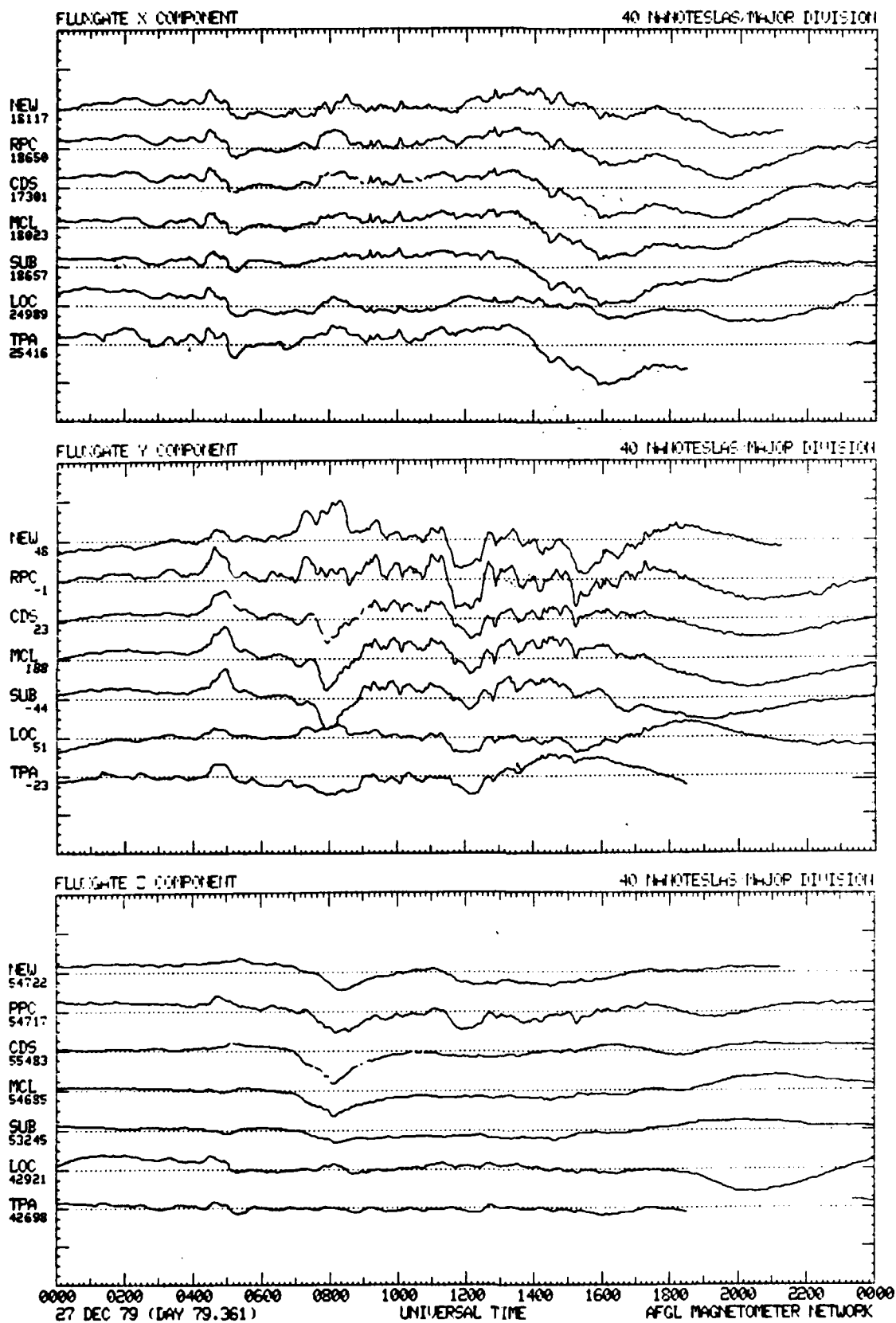


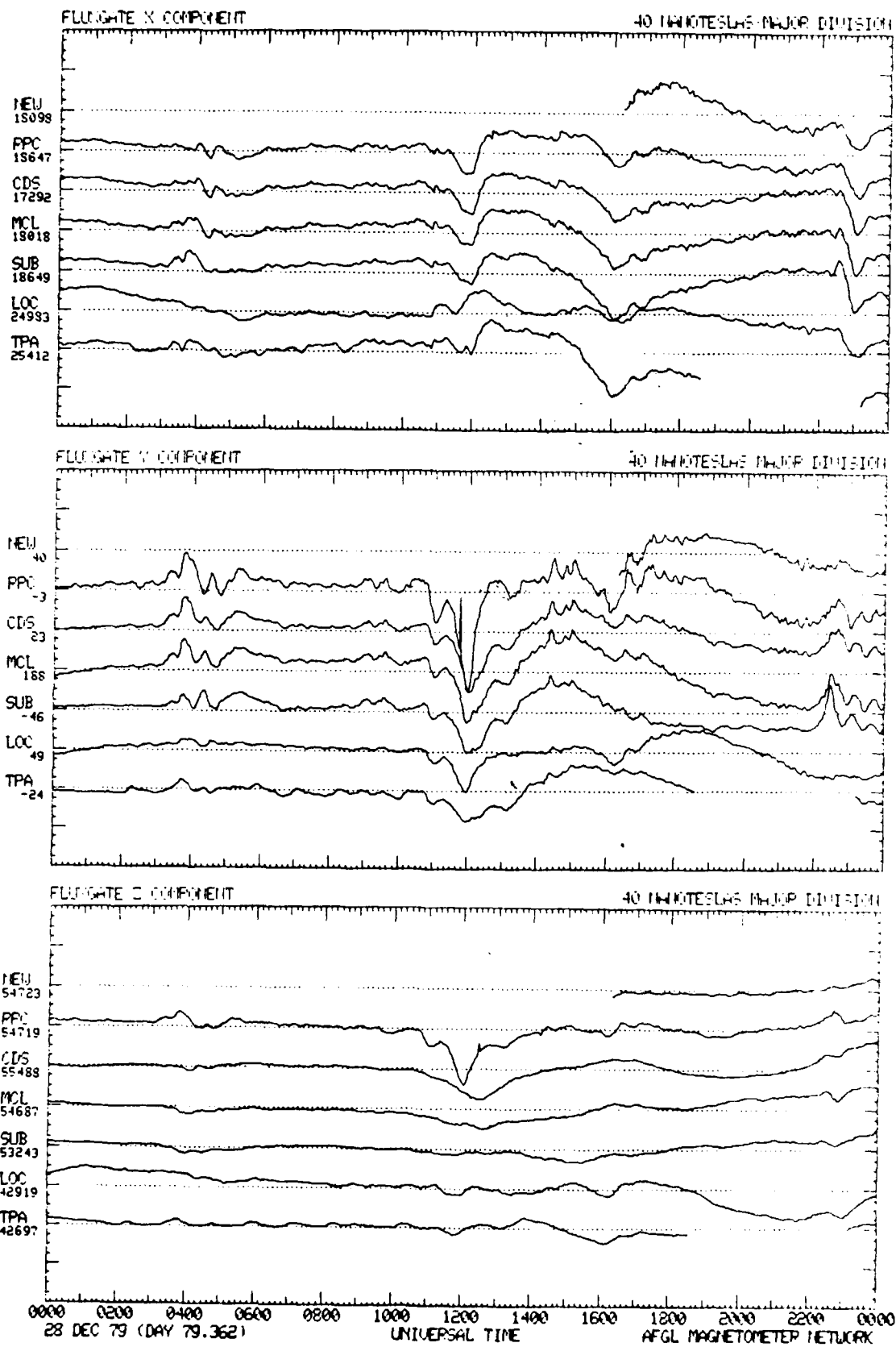






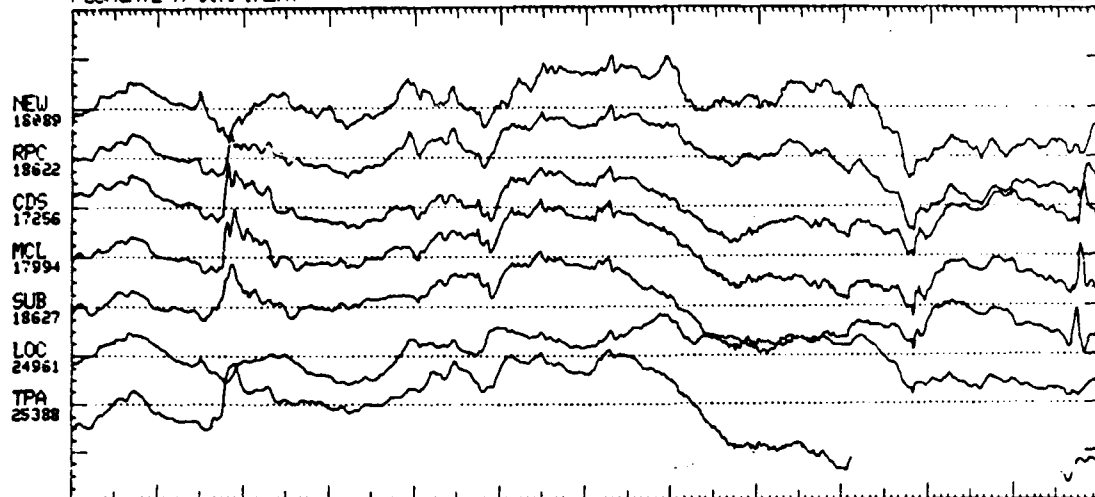






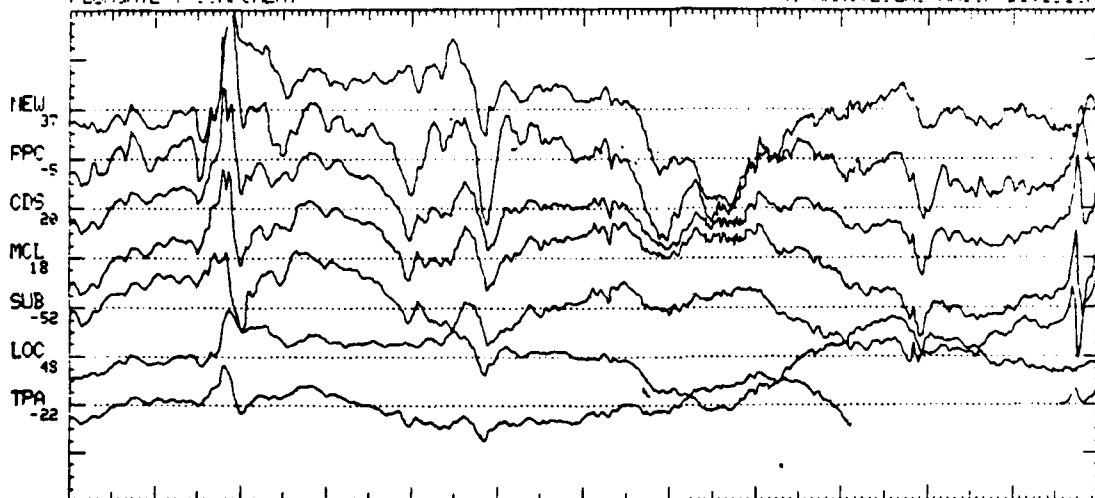
FLIGHTLINE X COMPONENT

40 NANOTESLAH MAJOR DIVISION



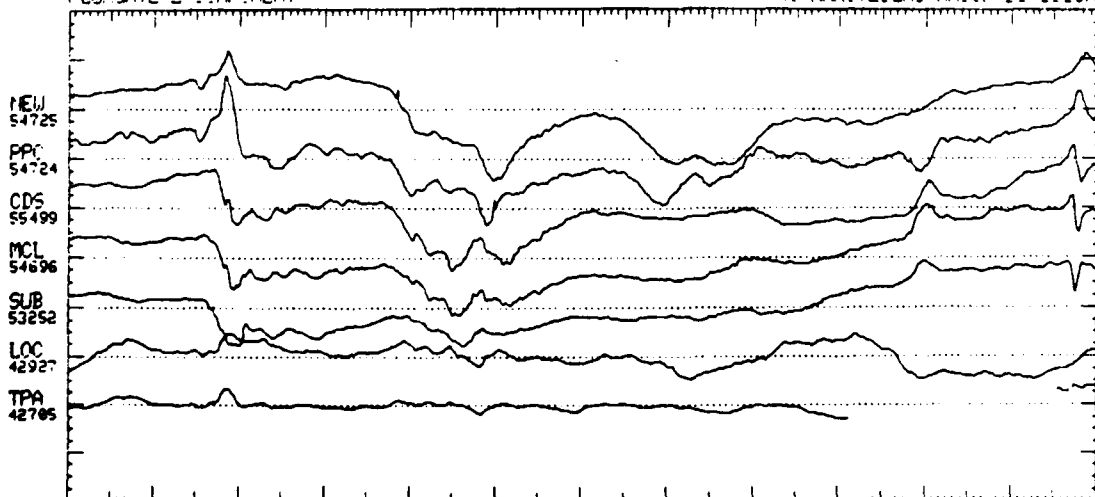
FLIGHTLINE Y COMPONENT

40 NANOTESLAH MAJOR DIVISION

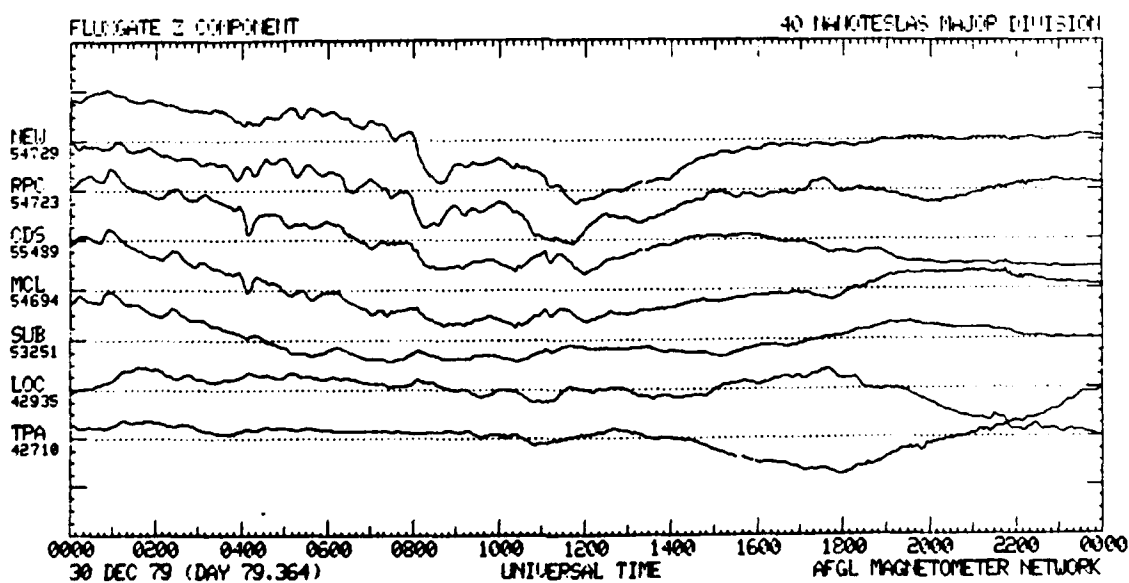
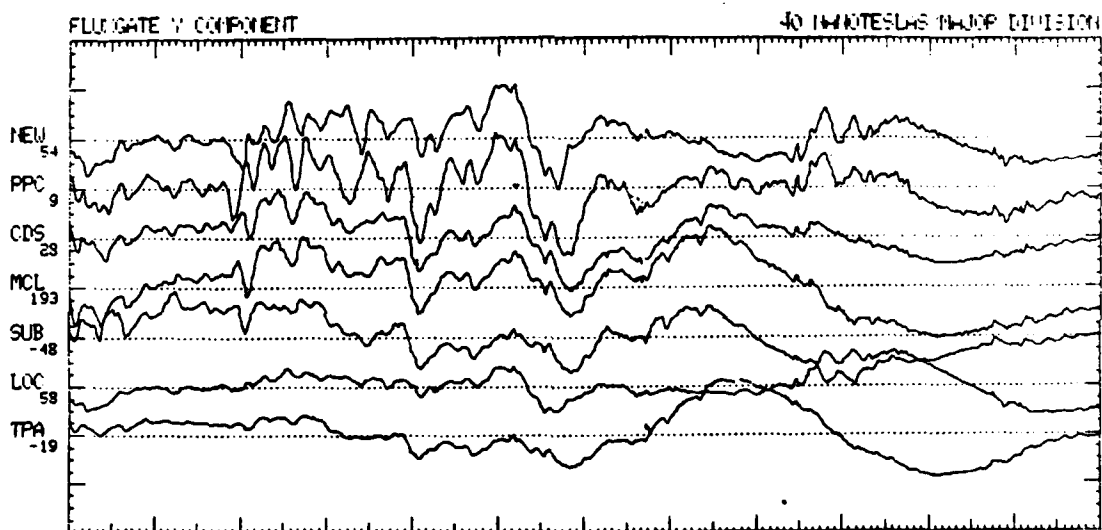
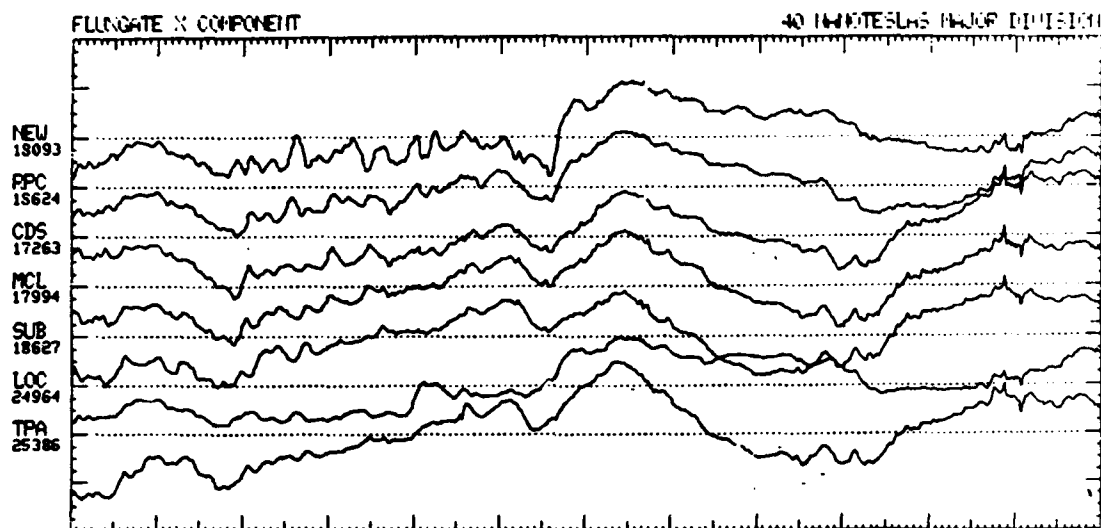


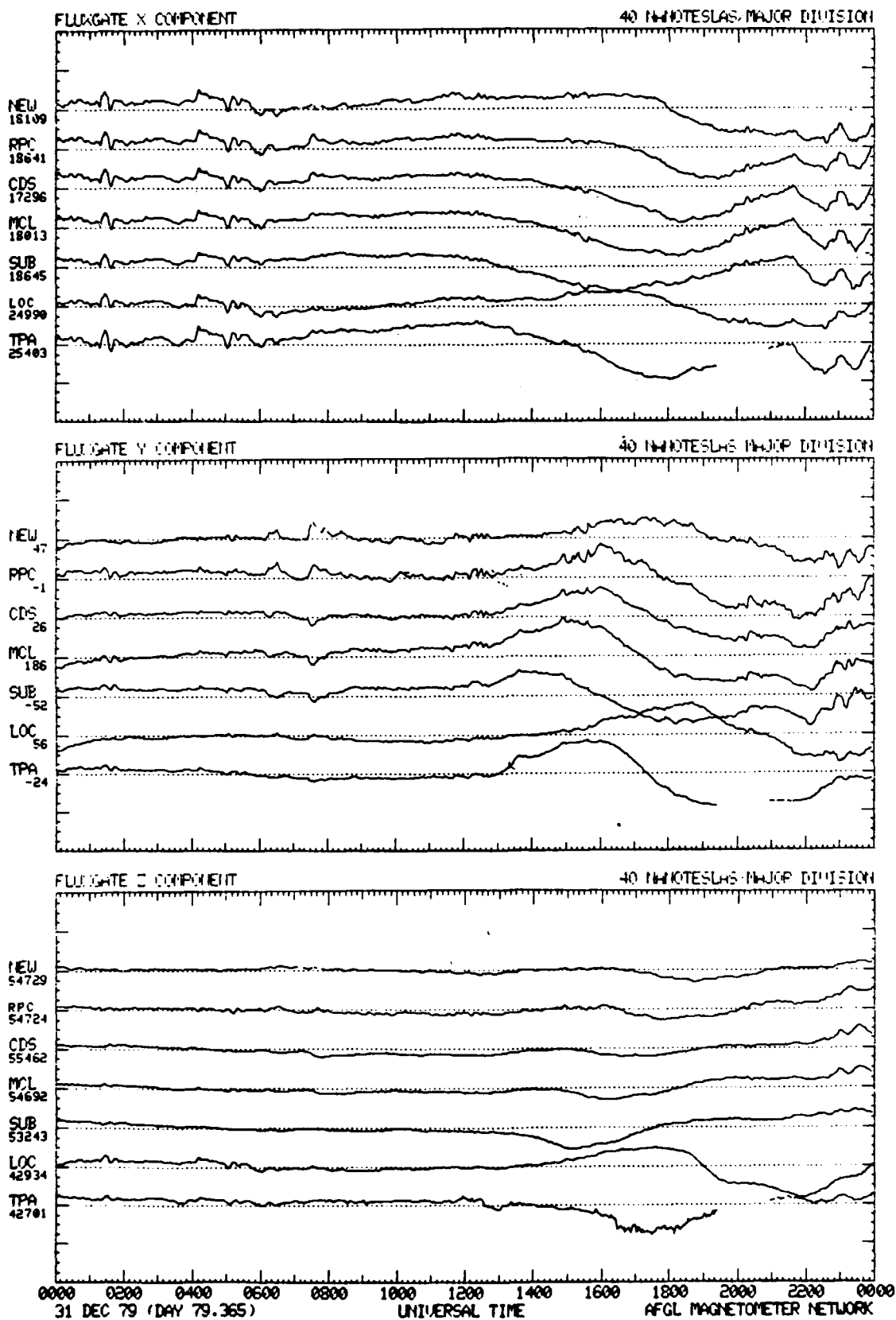
FLIGHTLINE Z COMPONENT

40 NANOTESLAH MAJOR DIVISION



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
29 DEC 79 (DAY 79.363) ► UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

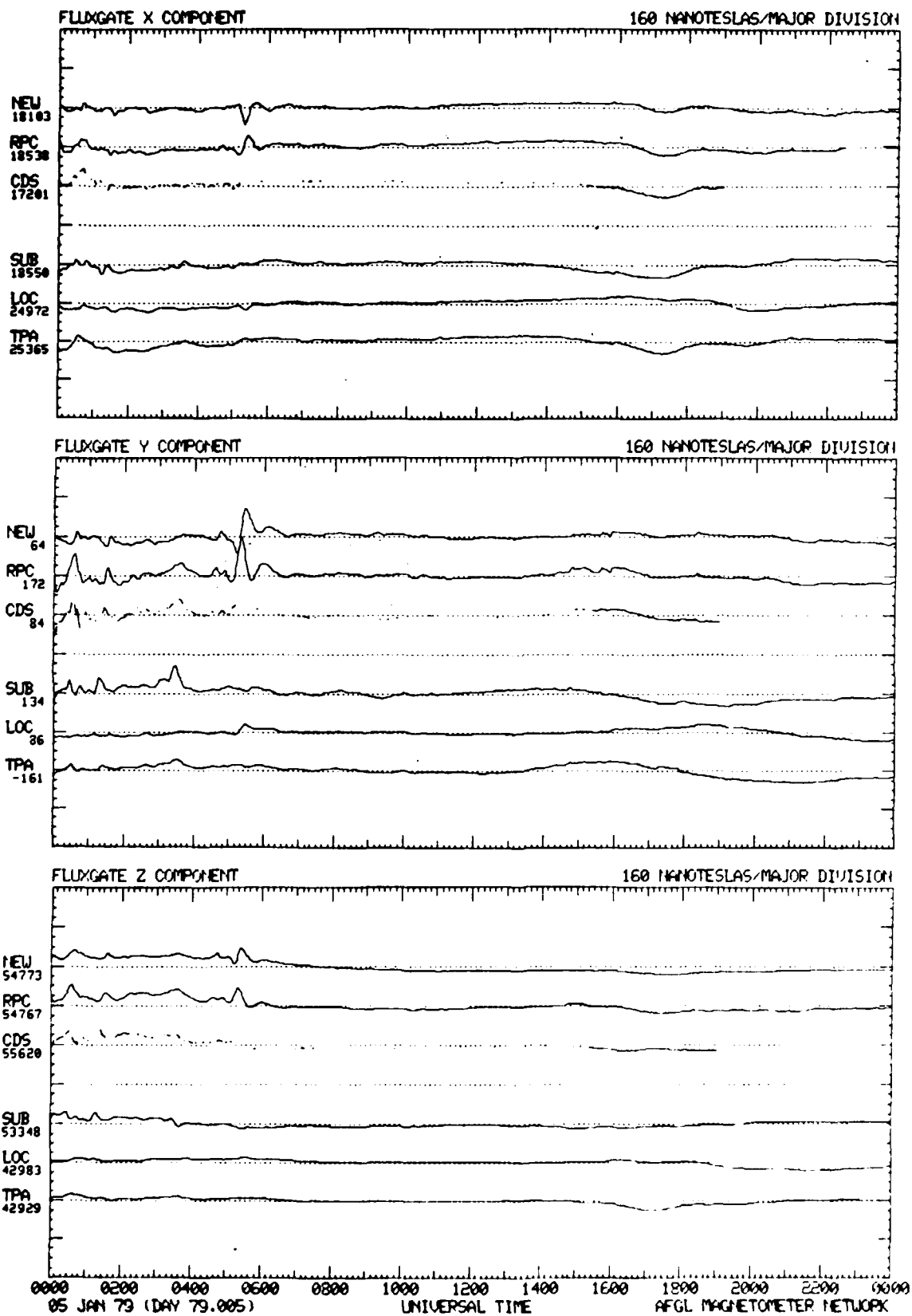


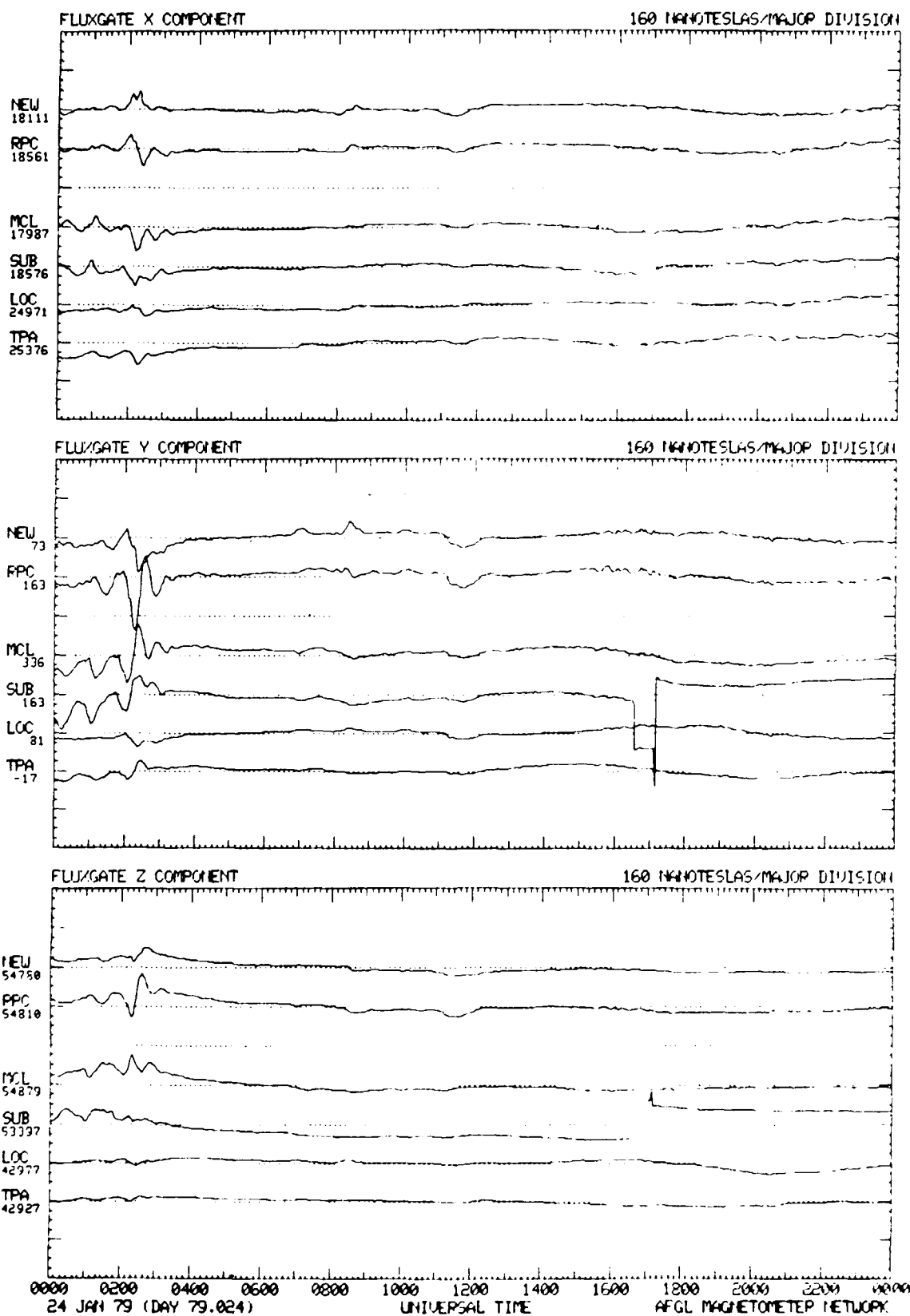


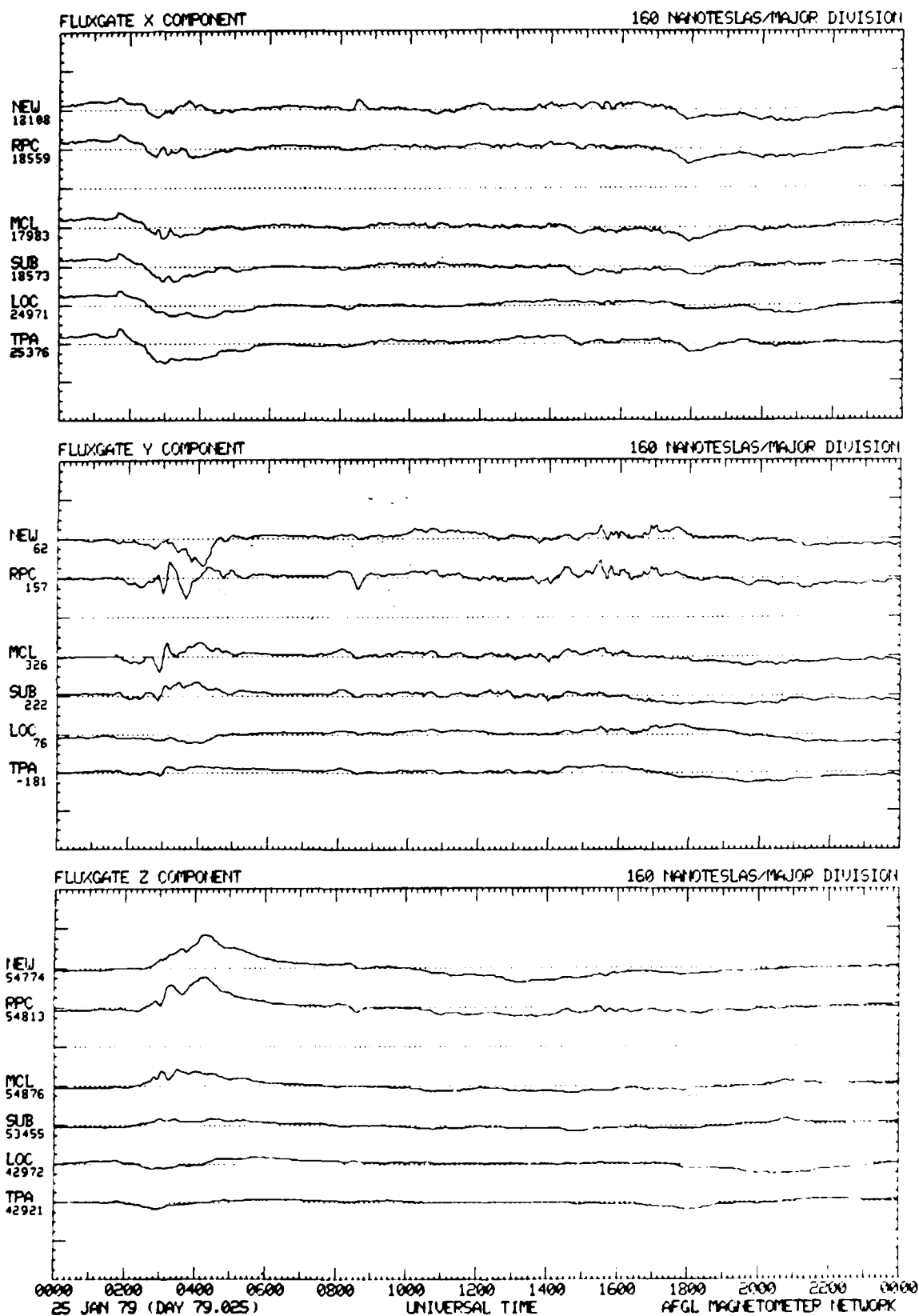
8. SUPPLEMENTARY PLOTS AT REDUCED AMPLITUDE

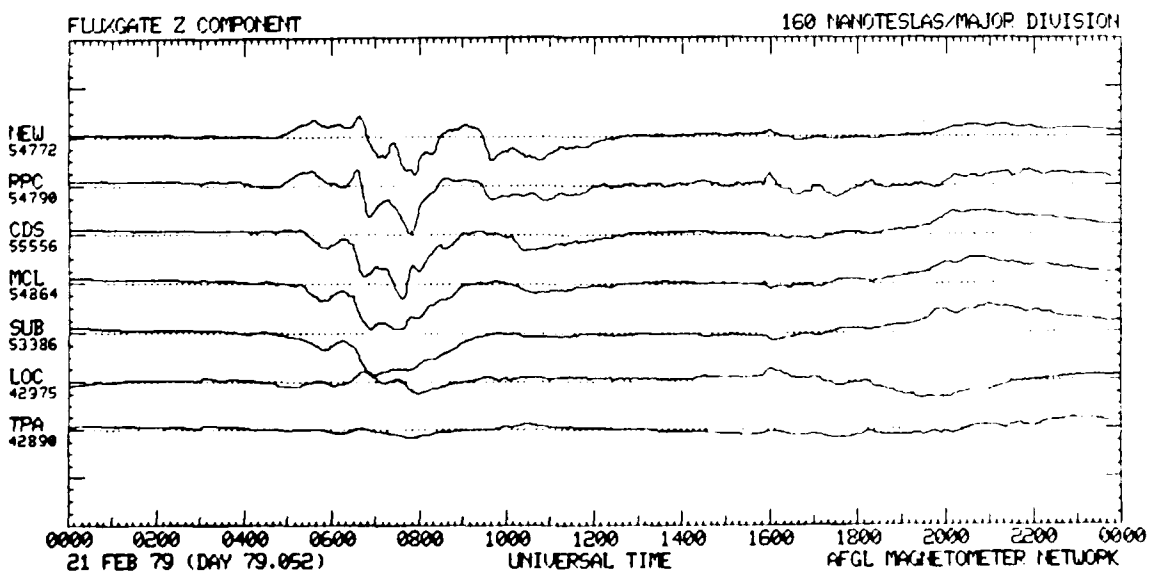
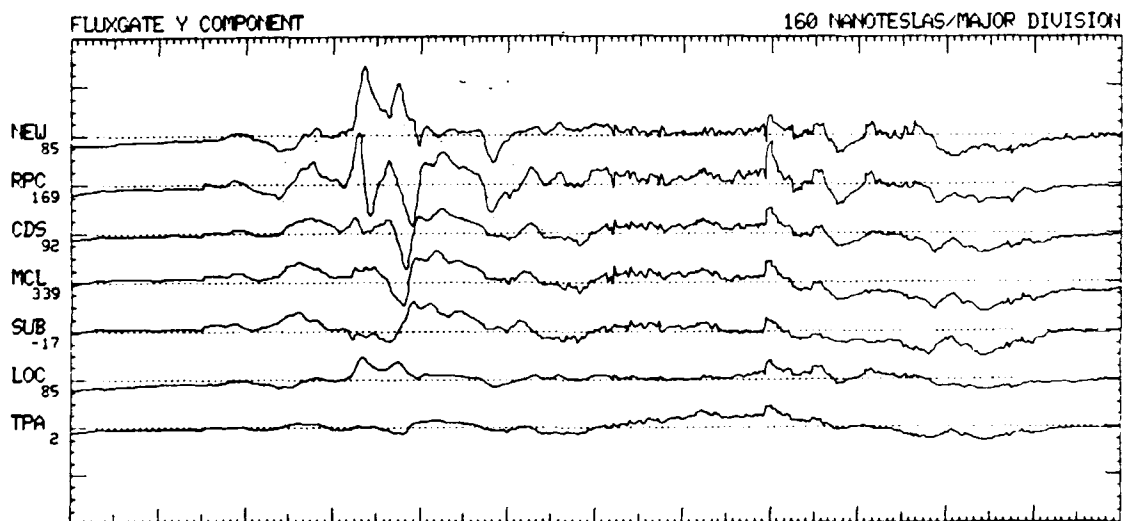
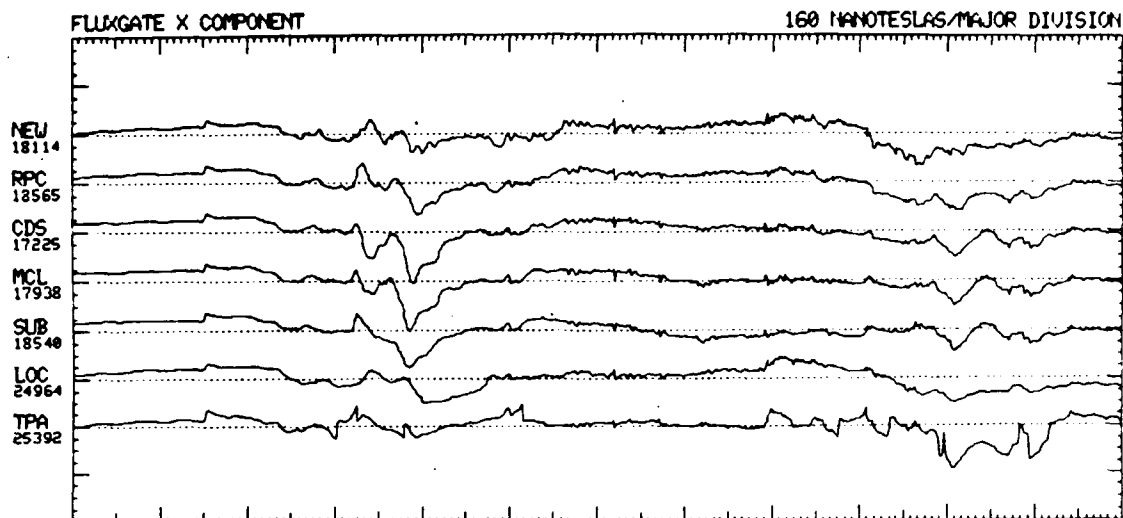
This section presents a stacked-magnetogram plot for each of the following days of 1979, using an amplitude scale of 160 or 400 nT per major division:

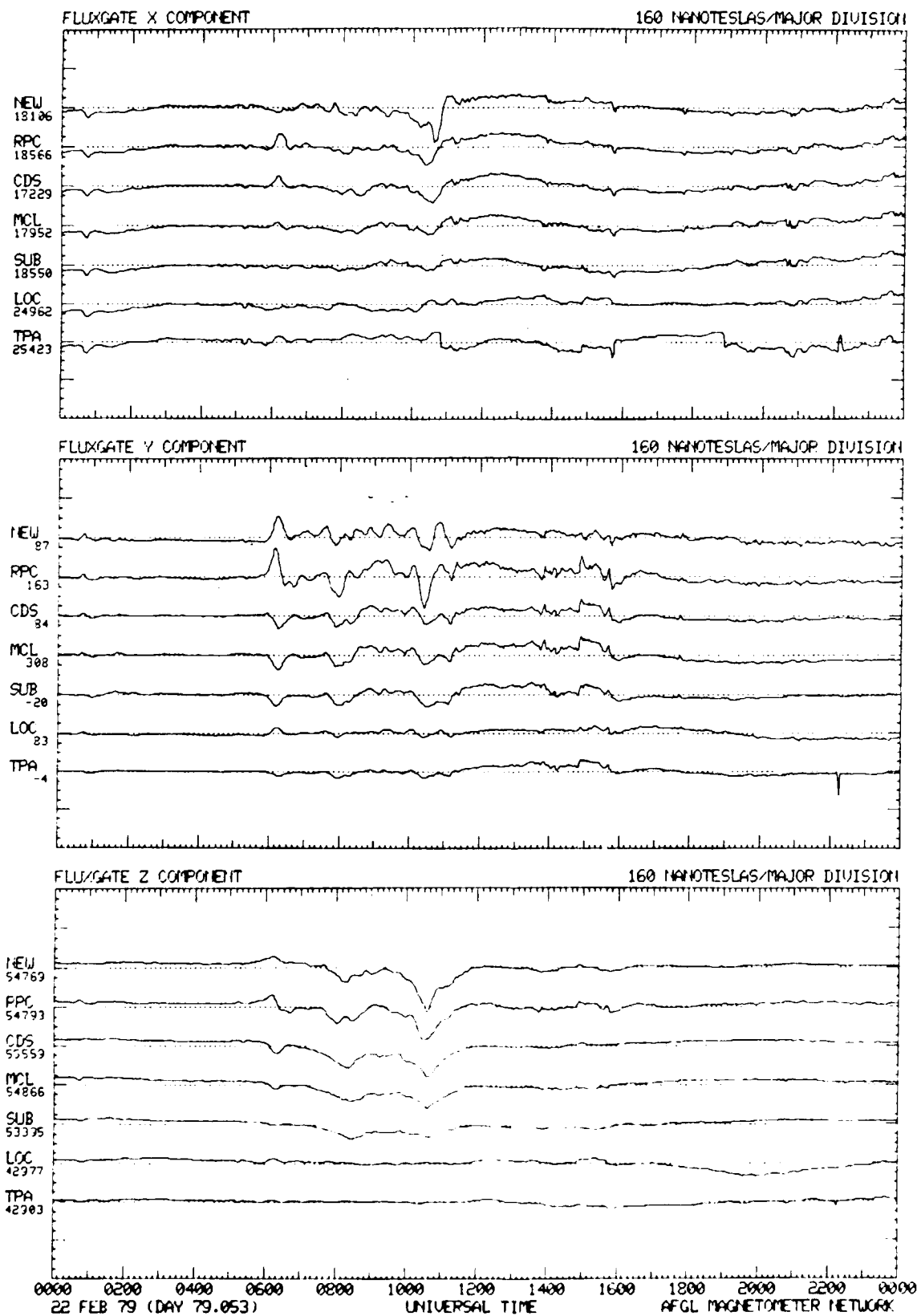
January	05, 24, 25
February	21, 22, 27
March	06, 10, 11, 22, 28, 29, 30
April	01, 02, 03, 04, 05, 22, 23, 25, 28
May	01, 22, 29
June	none
July	26, 27
August	12, 13, 19, 20, 21, 29
September	18, 21
October	08
November	13
December	29











AD-A173 658

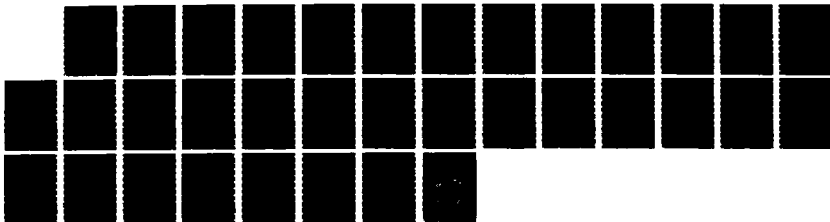
DAILY MAGNETOGRAMS FOR 1979 FROM THE AFGL NETWORK(U)
AIR FORCE GEOPHYSICS LAB HANSCOM AFB MA D J KNECHT
22 FEB 85 AFGL-TR-85-0028

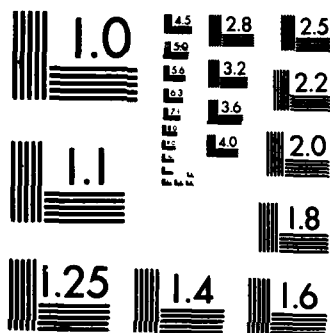
5/5

UNCLASSIFIED

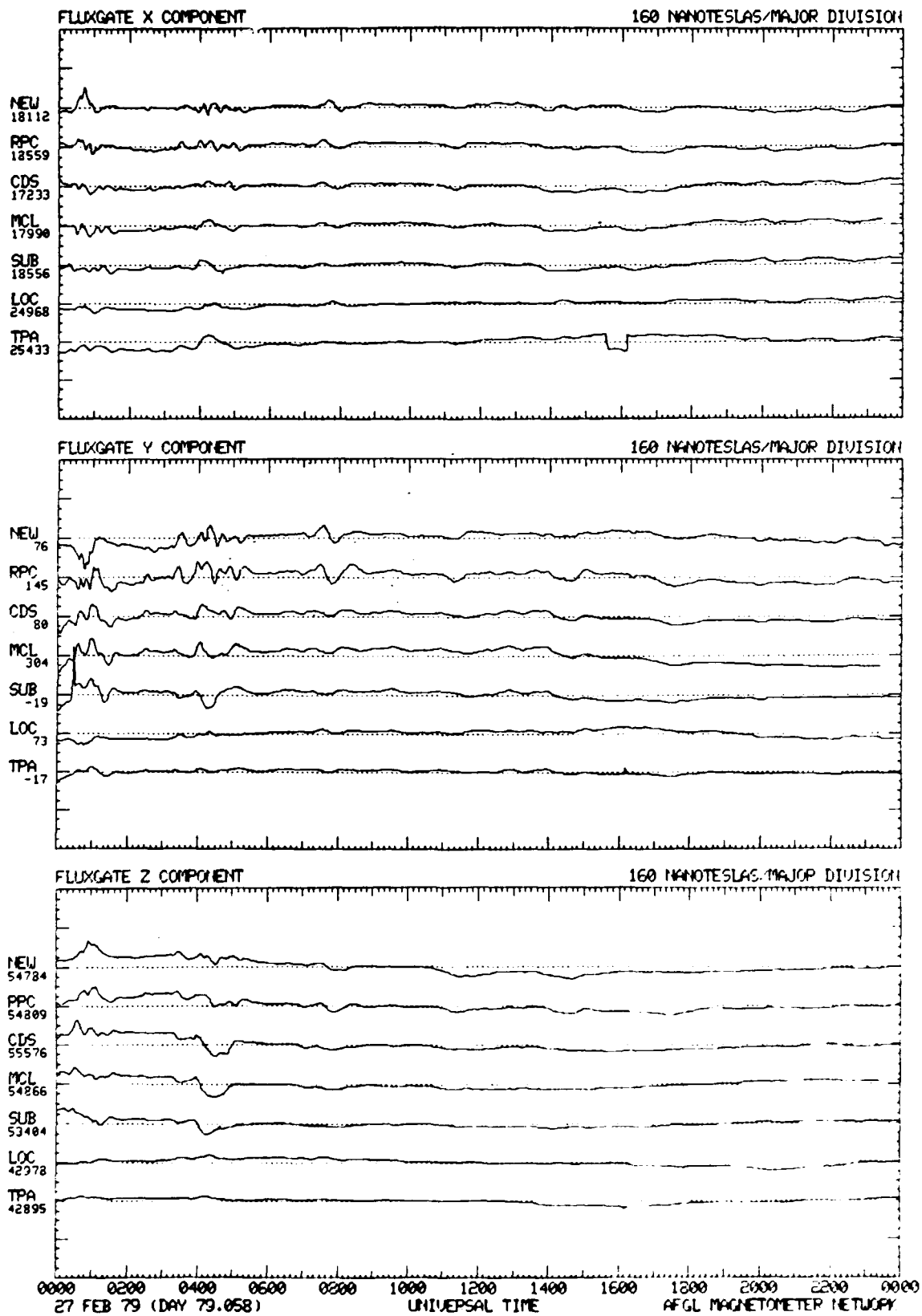
F/G 8/14

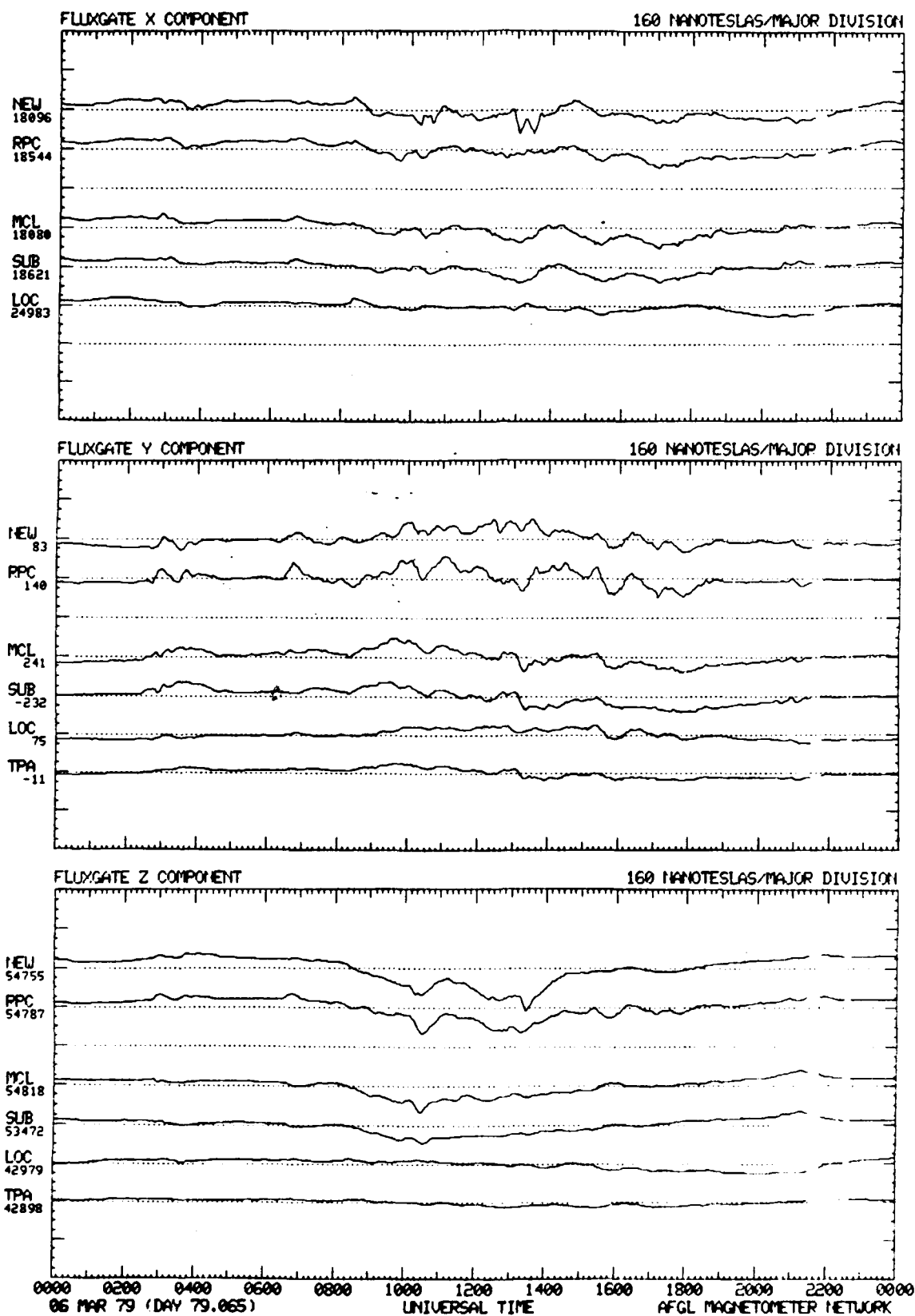
NL

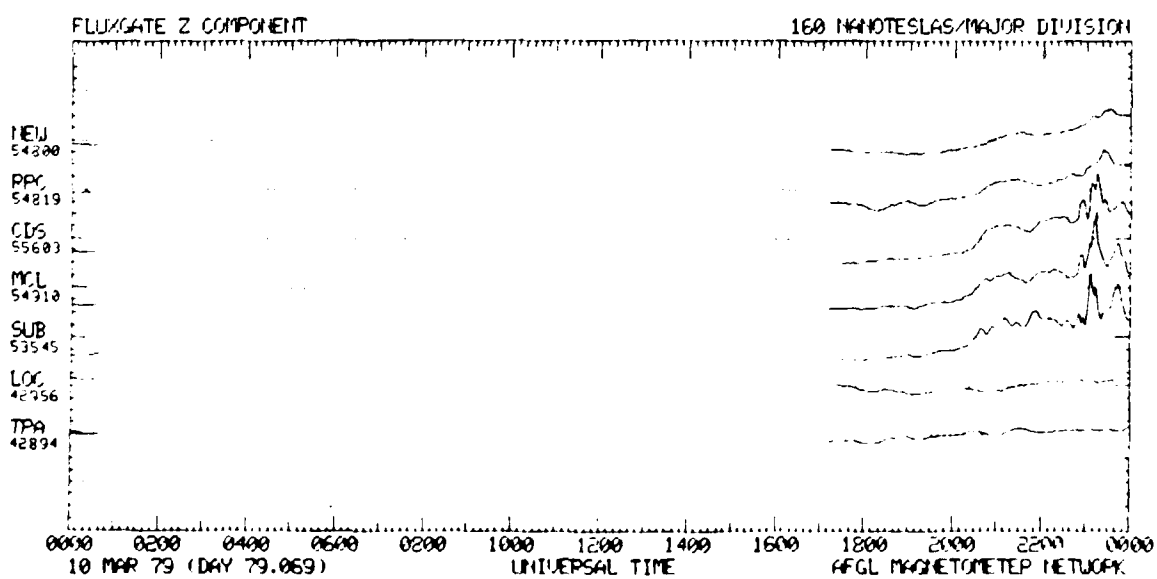
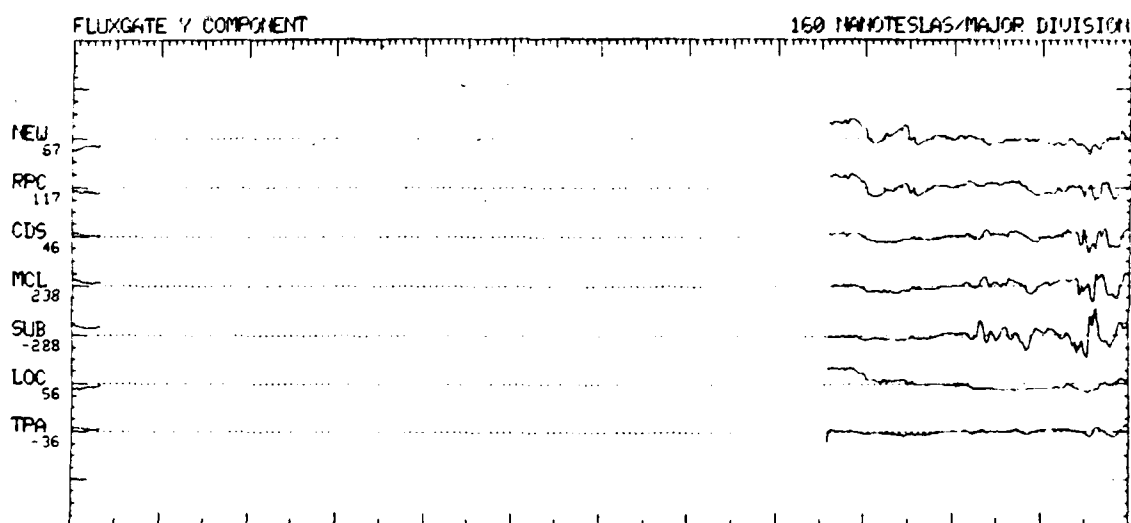
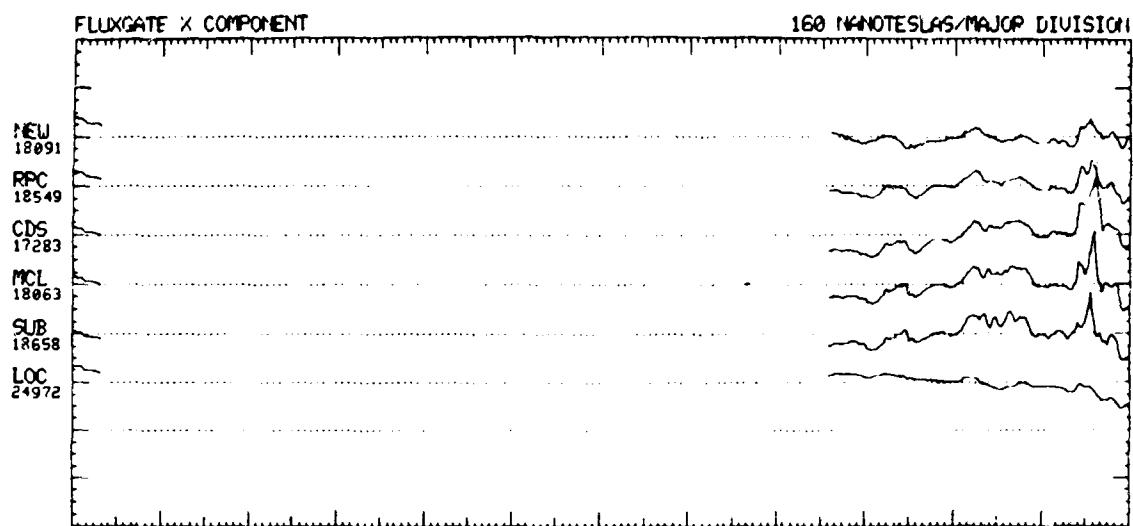


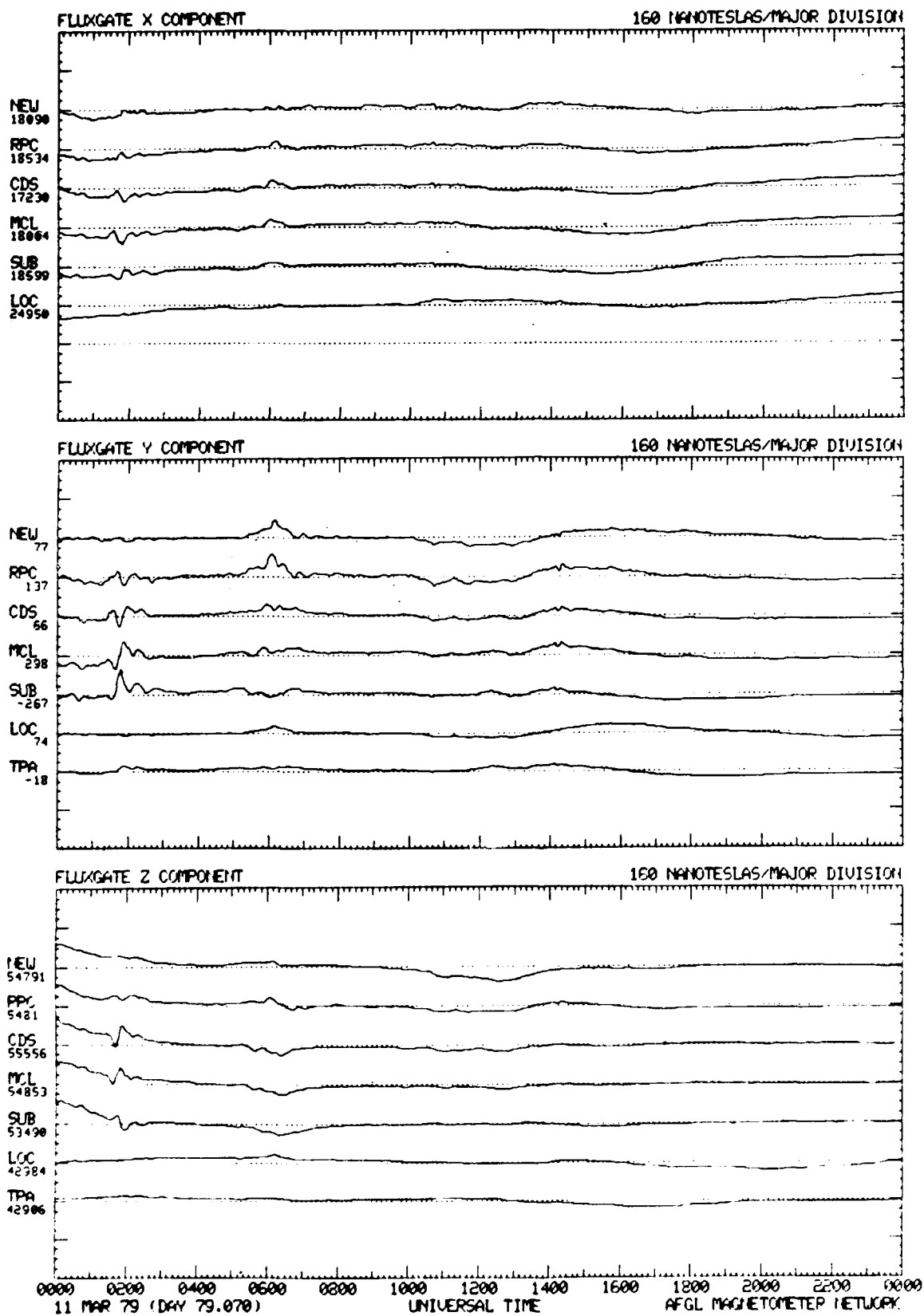


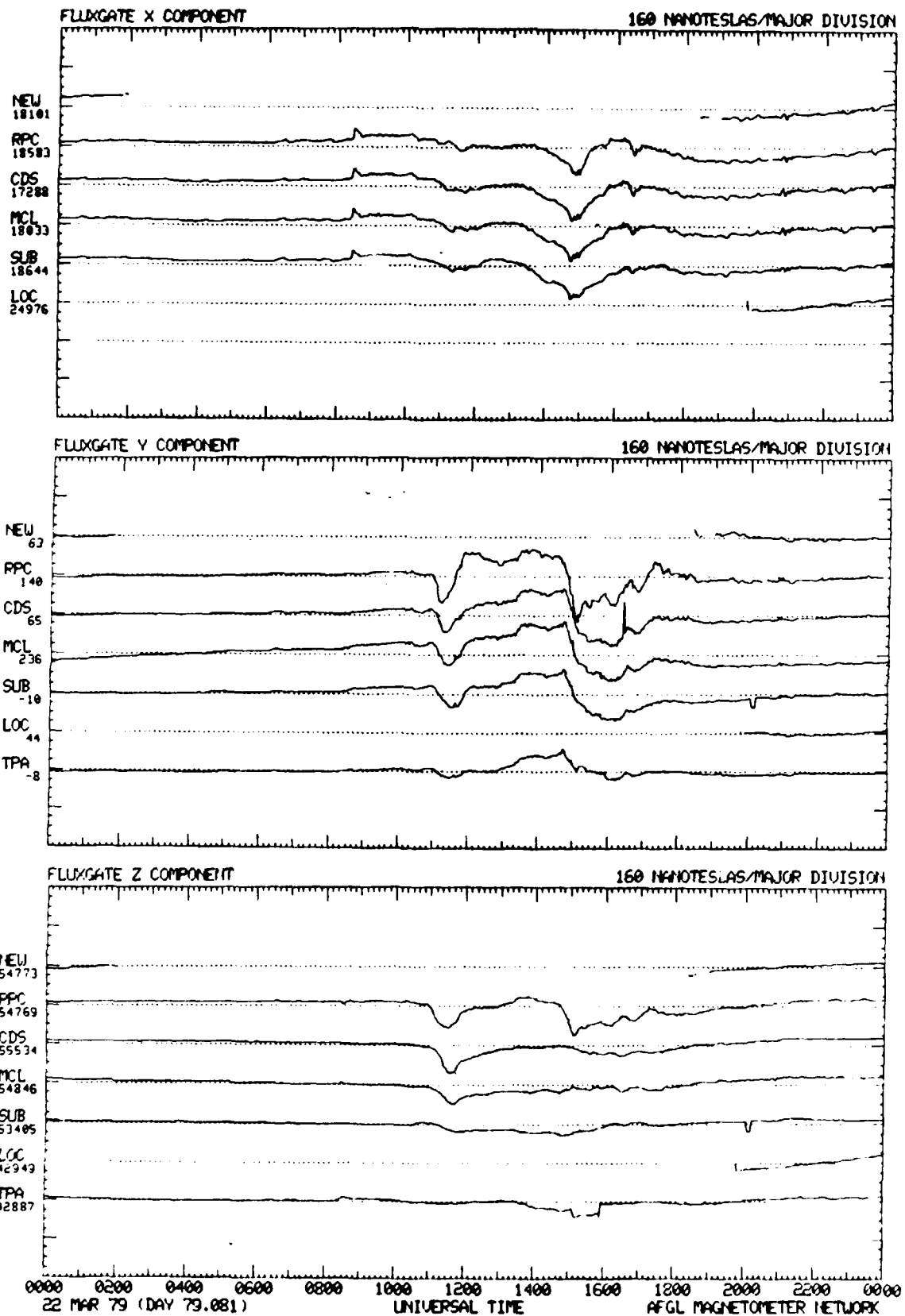
XEROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A







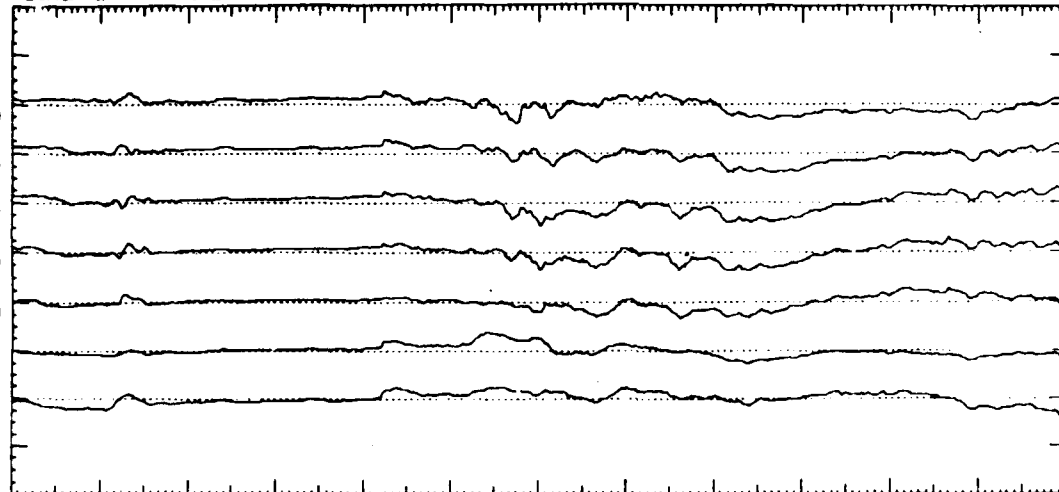




FLUXGATE X COMPONENT

160 NANOTESLAS/MAJOR DIVISION

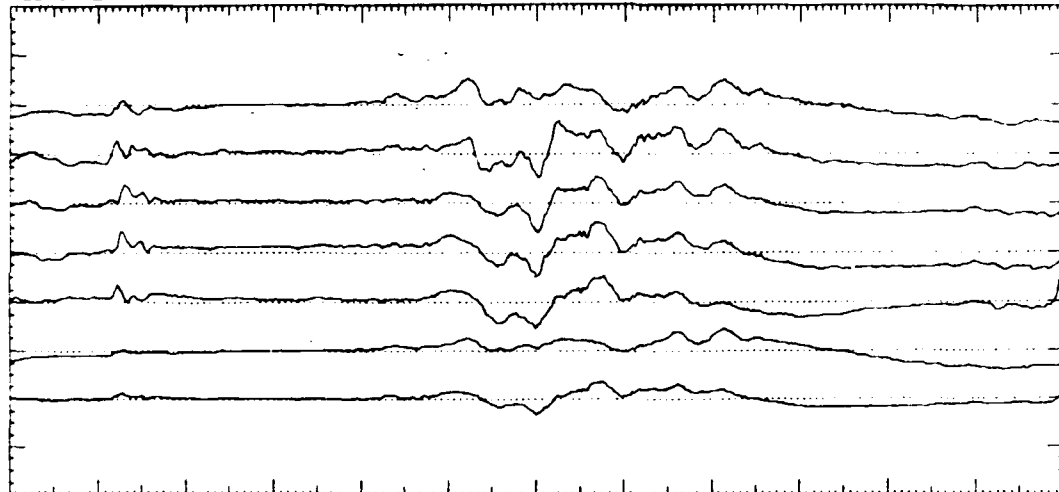
NEW
18110
RPC
18564
CDS
17262
MCL
17970
SUB
18634
LOC
24984
TPA
25394



FLUXGATE Y COMPONENT

160 NANOTESLAS/MAJOR DIVISION

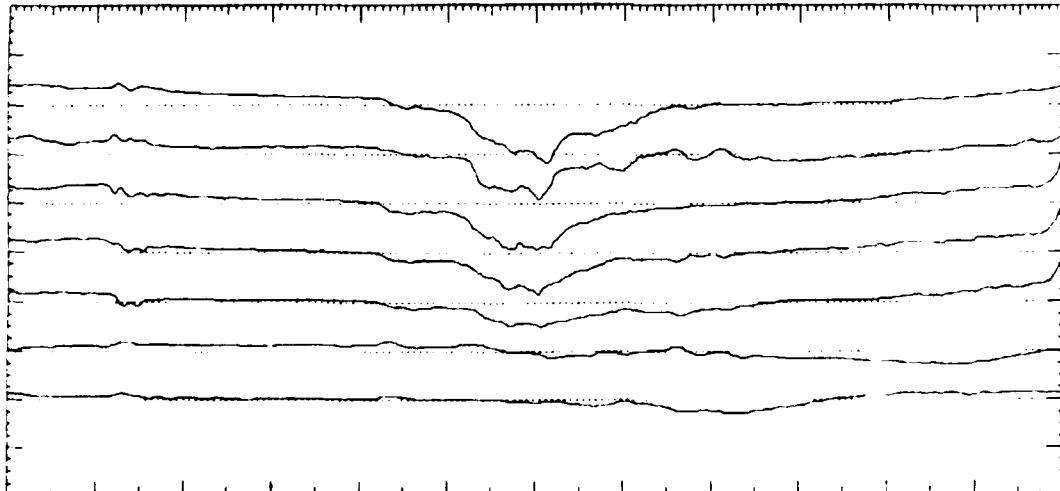
NEW
73
RPC
141
CDS
61
MCL
269
SUB
-30
LOC
70
TPA
-19



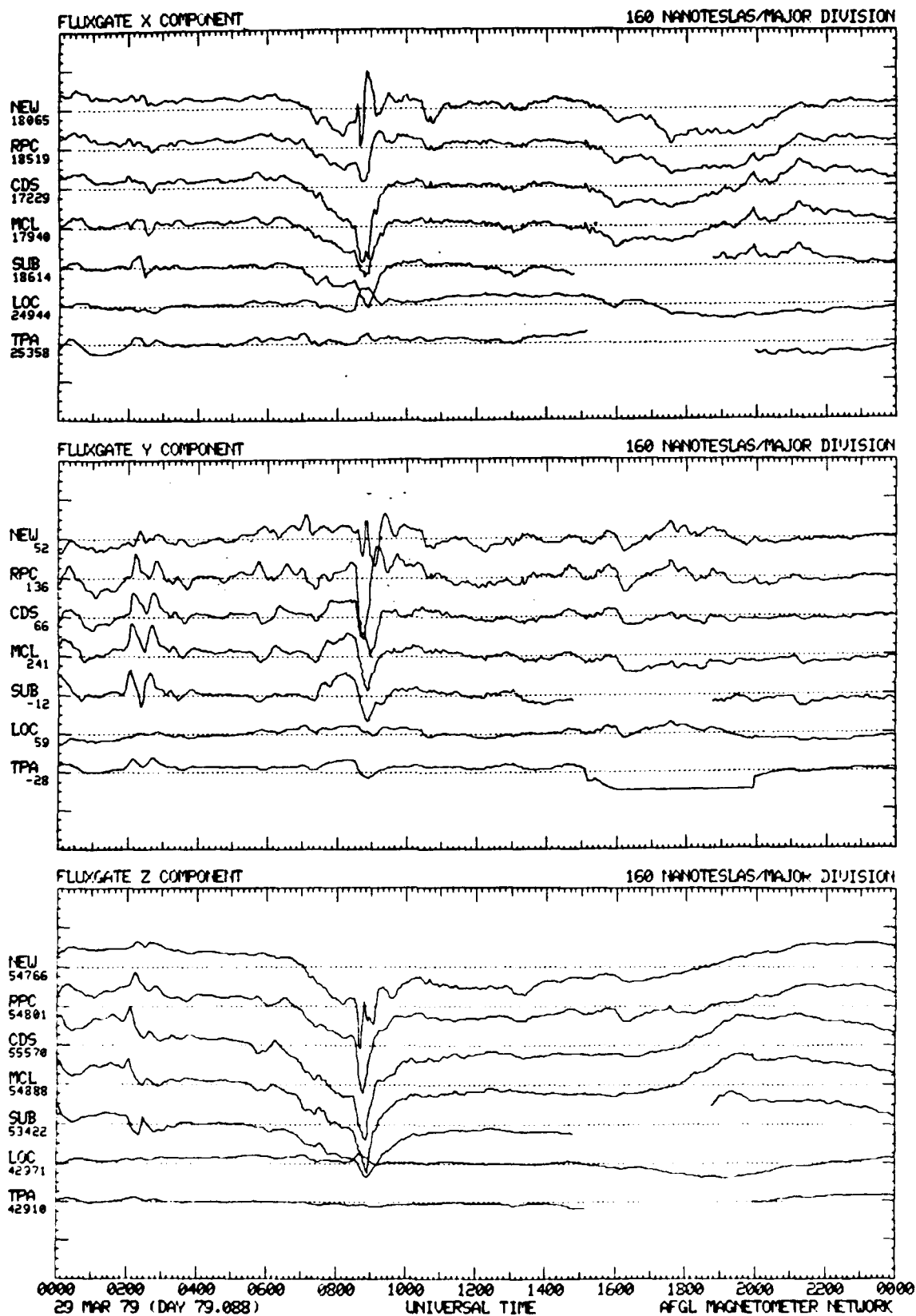
FLUXGATE Z COMPONENT

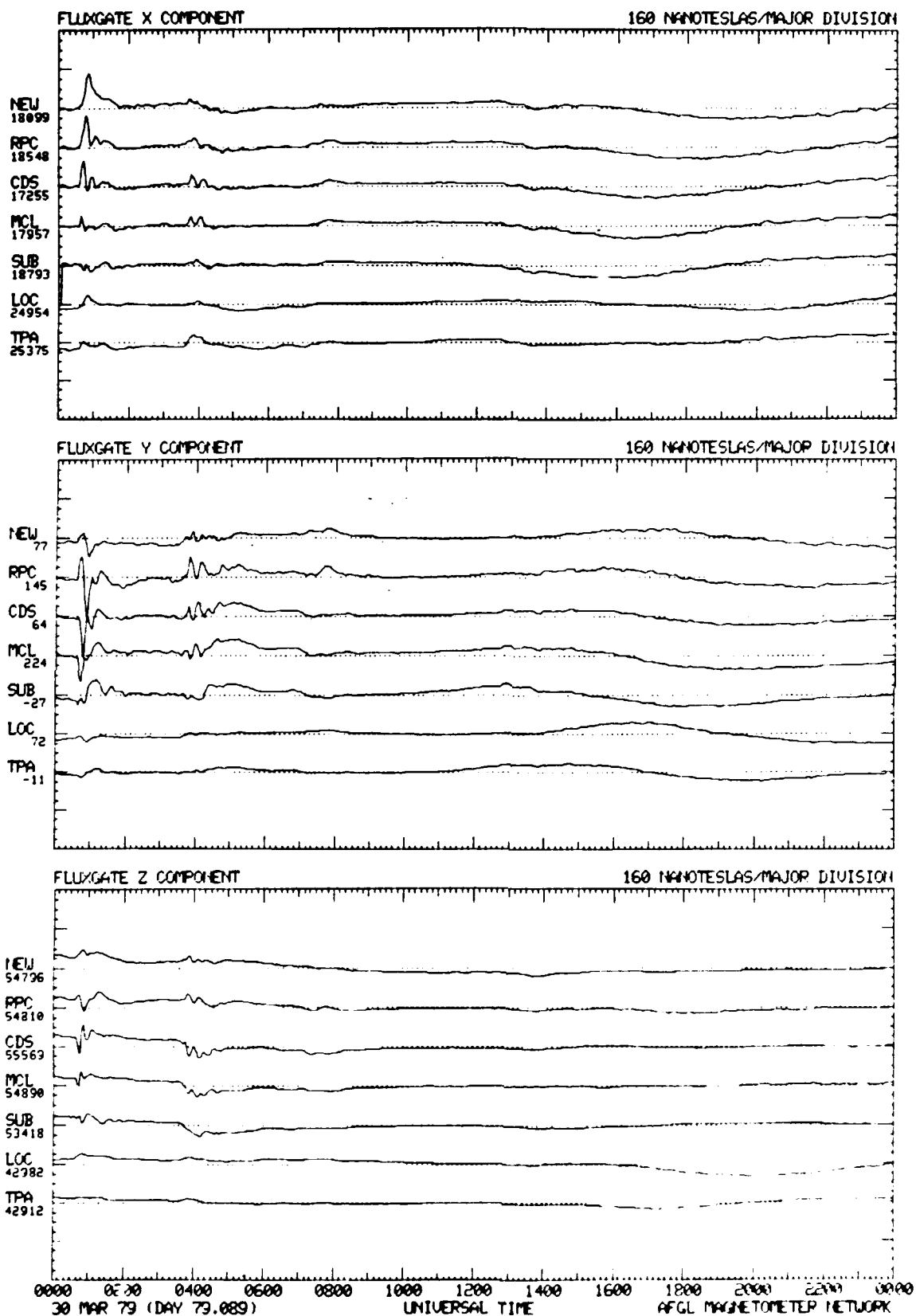
160 NANOTESLAS/MAJOR DIVISION

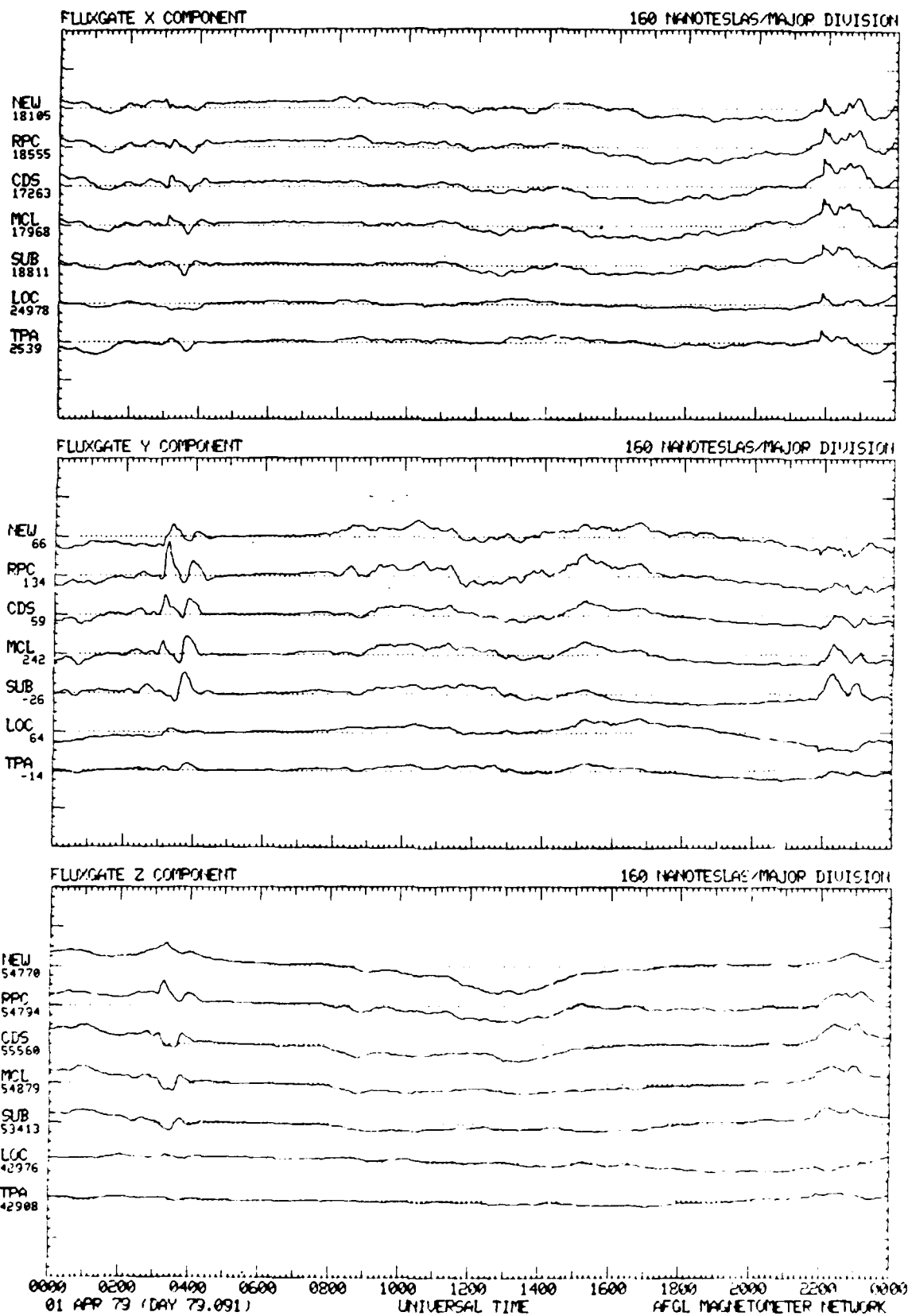
NEW
54751
RPC
54780
CDS
55541
MCL
54855
SUB
53401
LOC
42972
TPA
42893

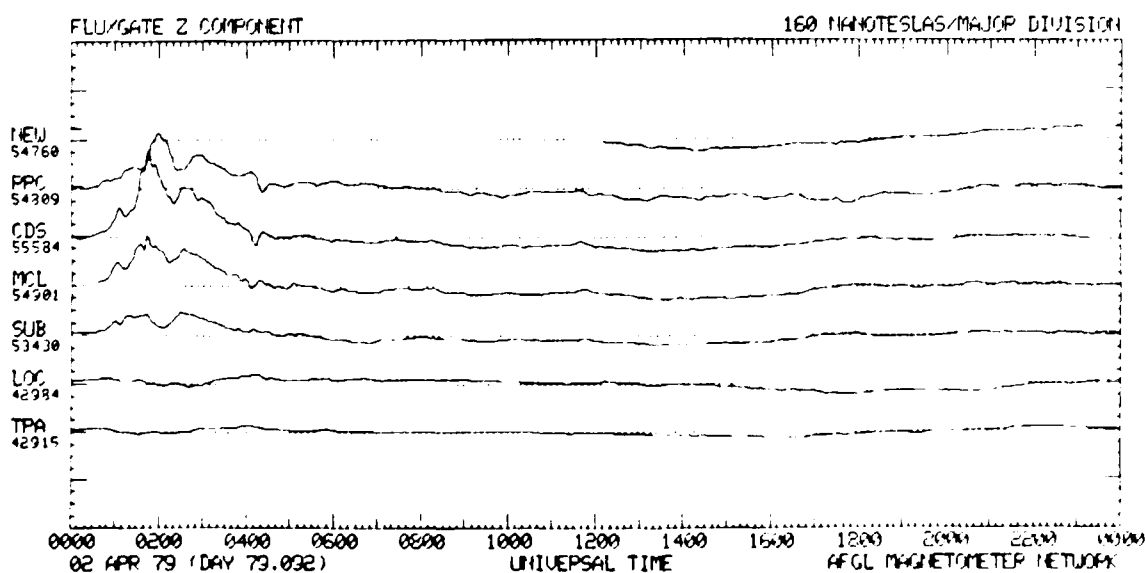
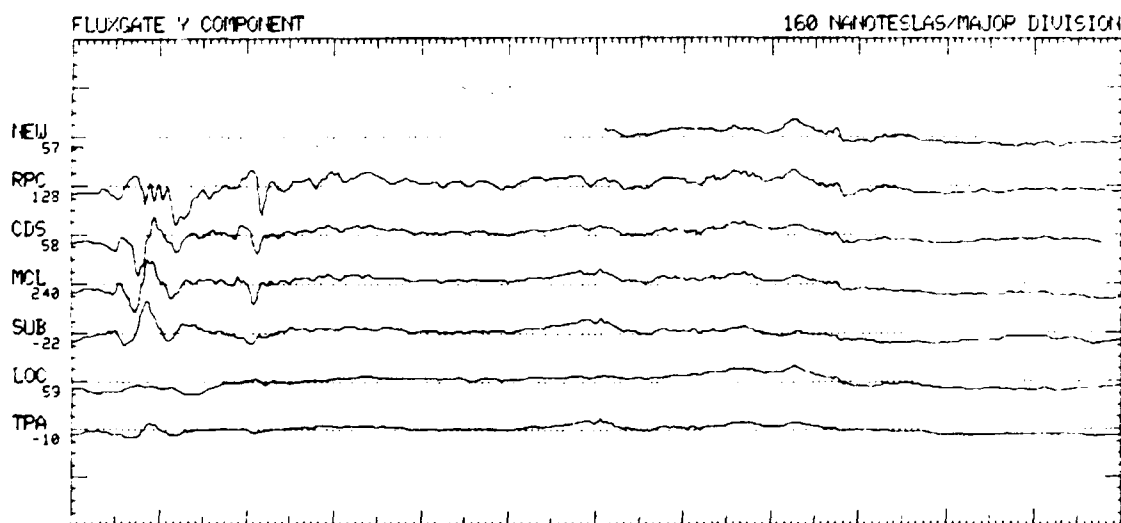
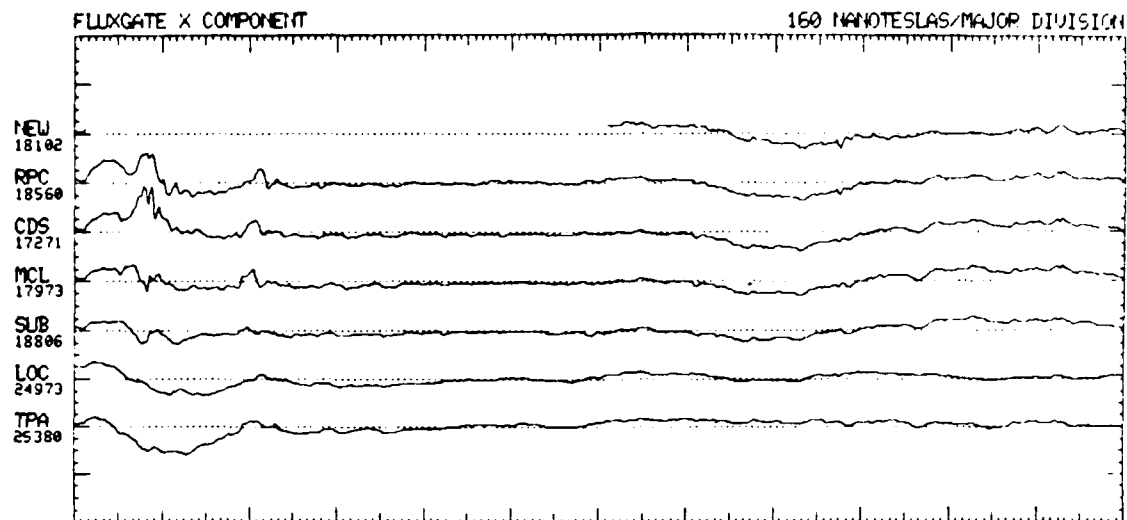


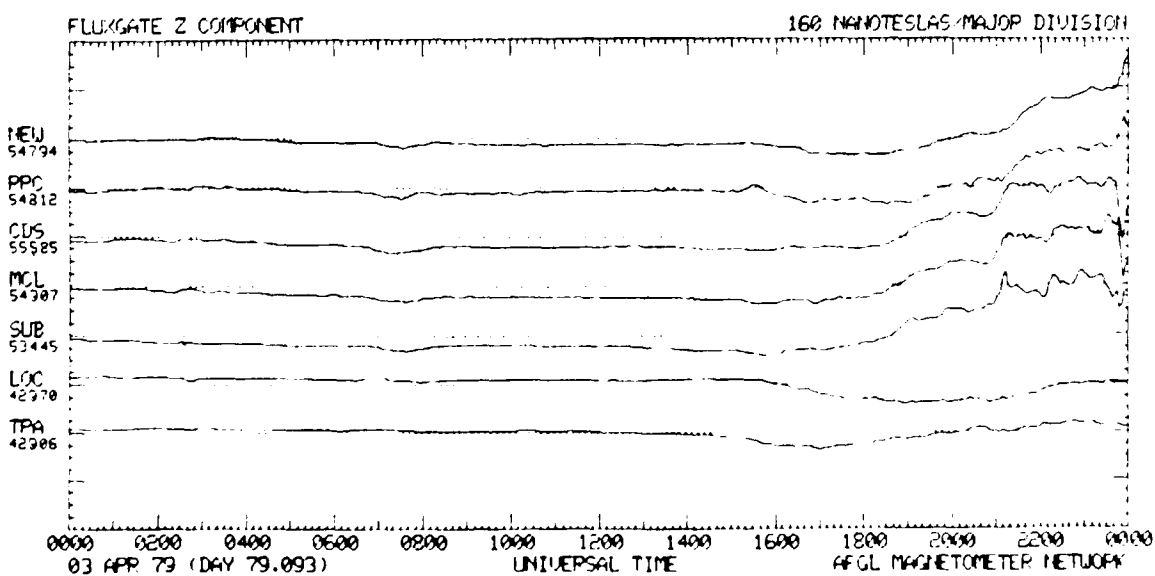
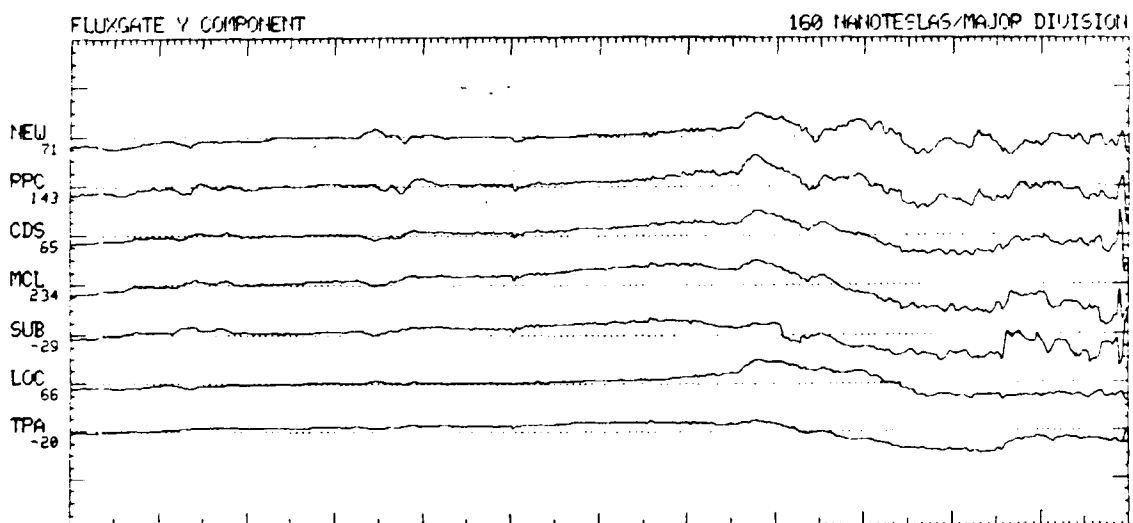
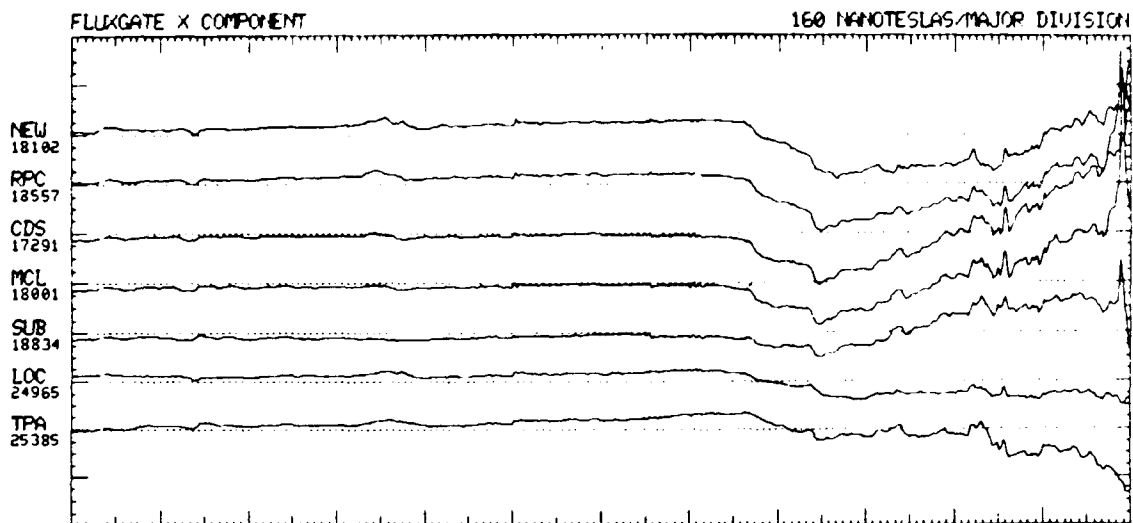
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 0000
28 MAR 79 (DAY 79.087) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

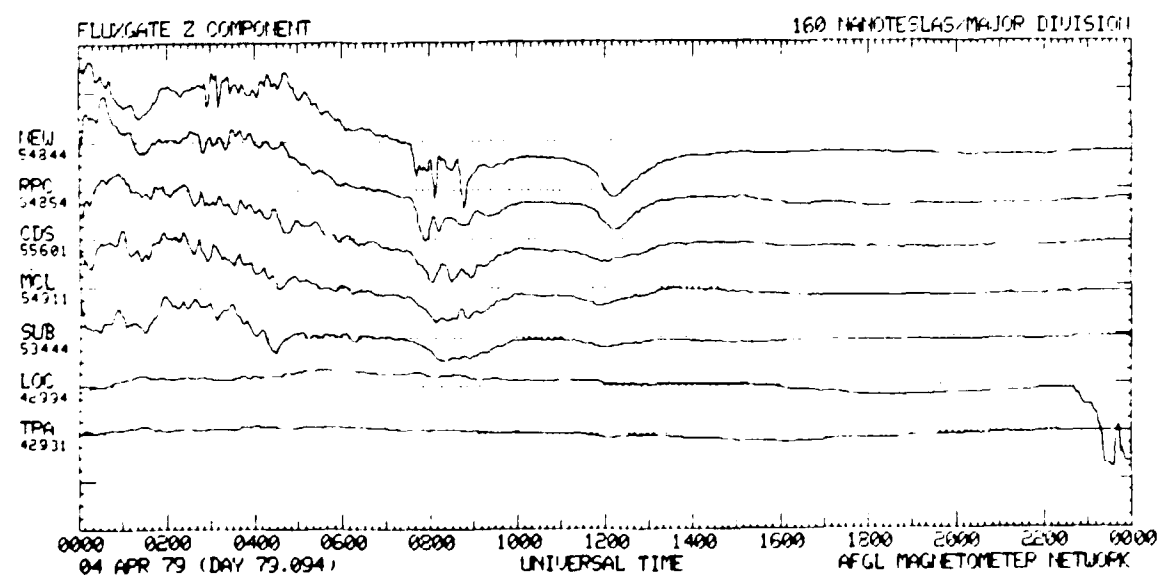
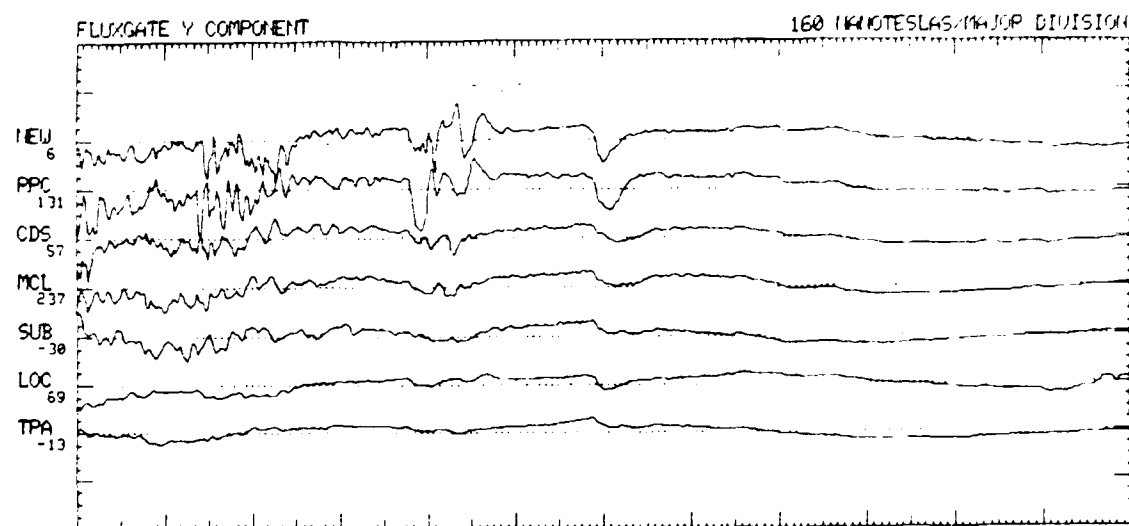
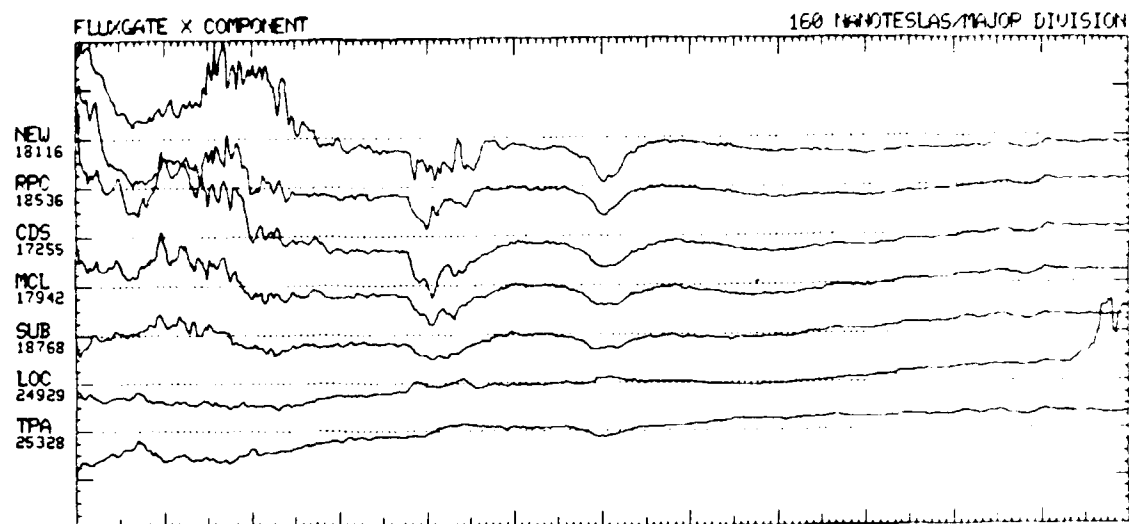


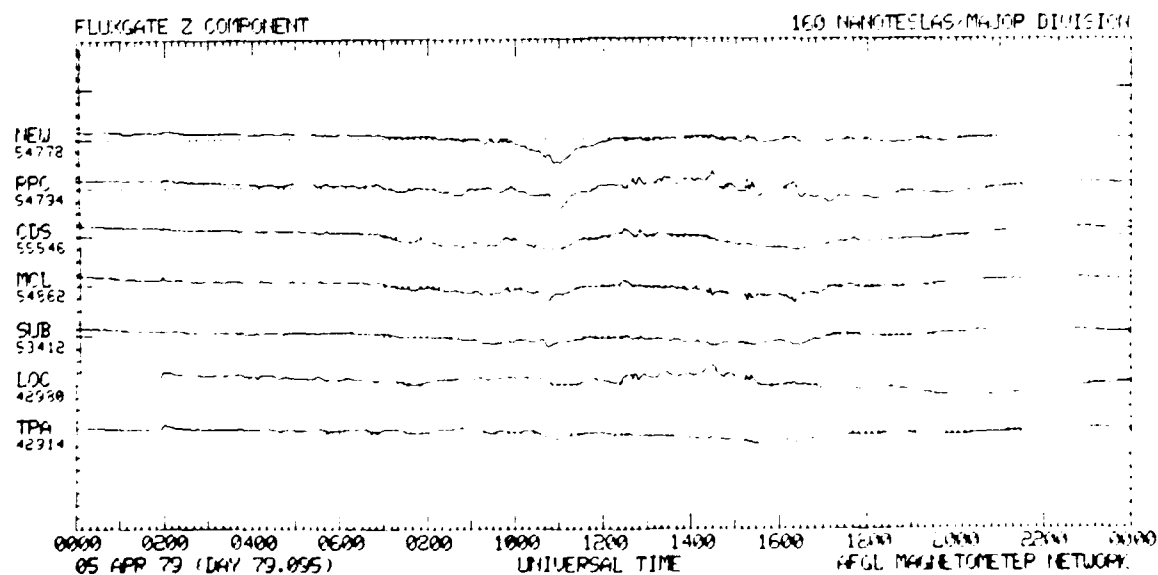
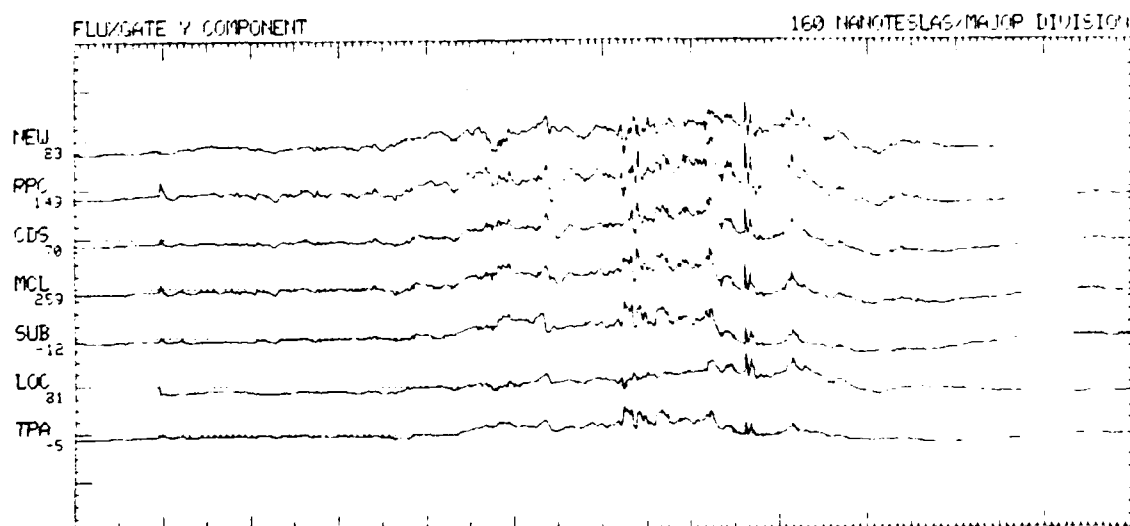
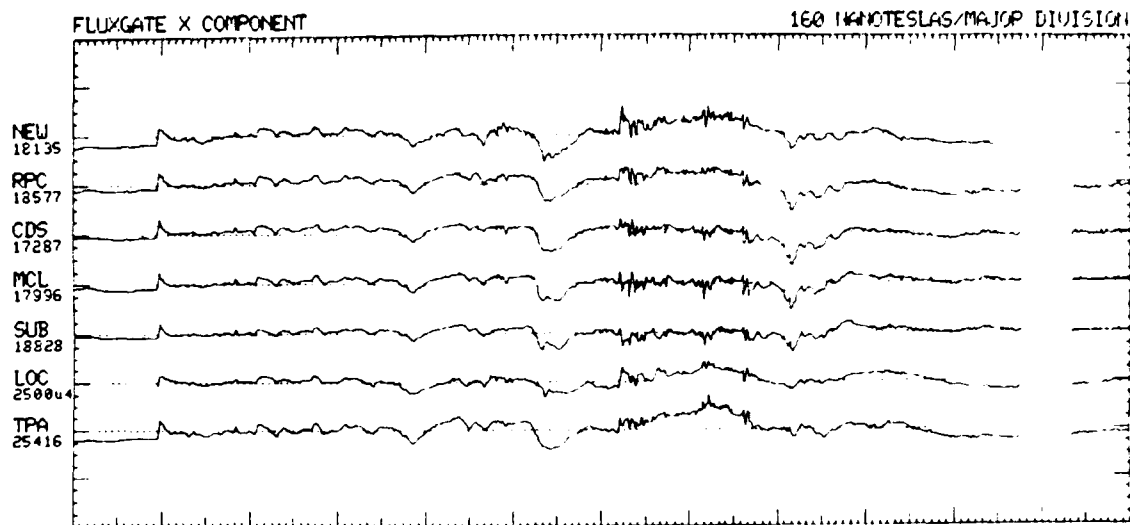


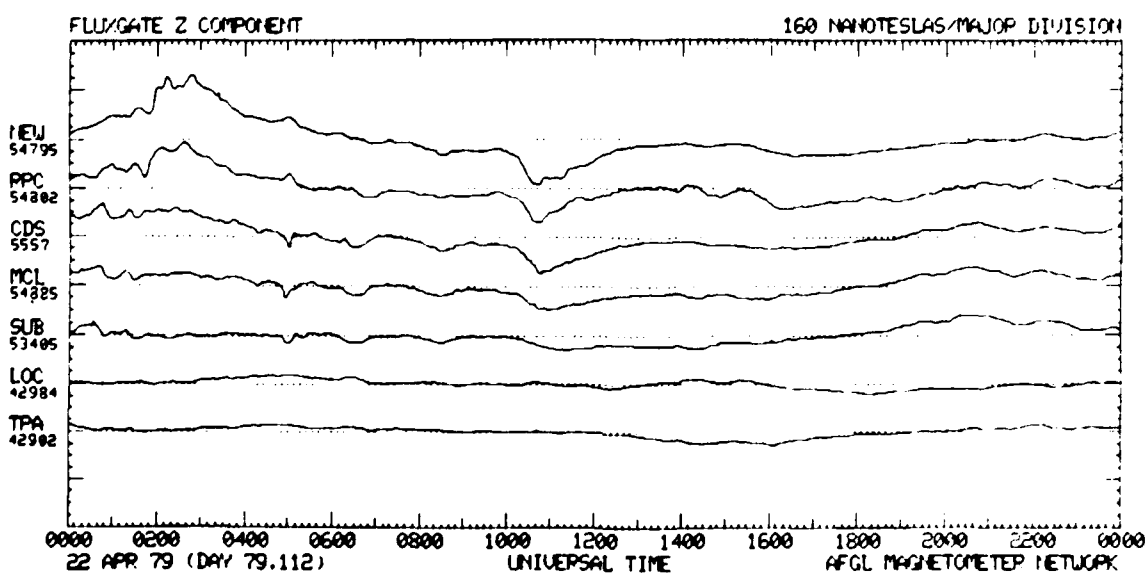
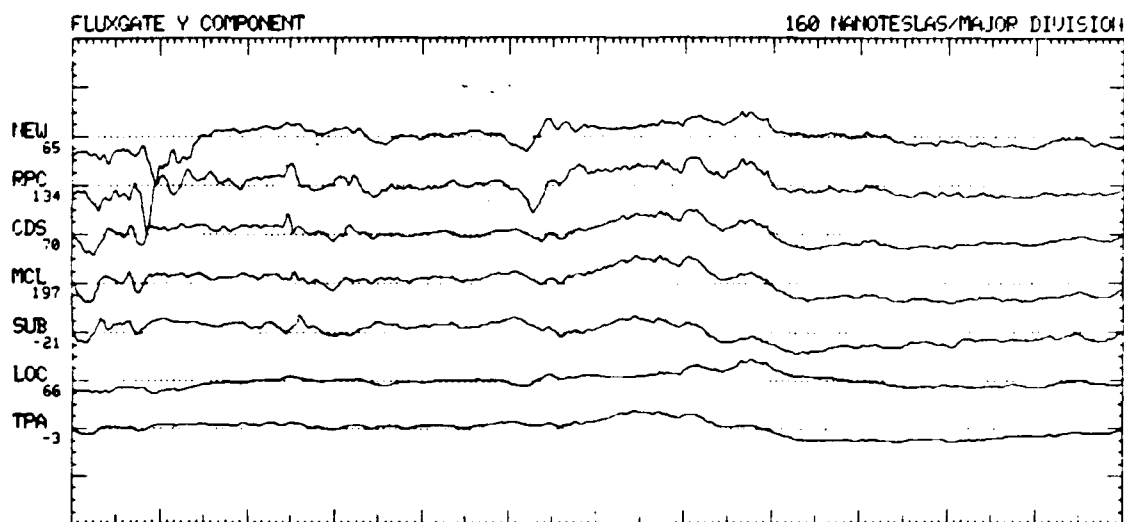
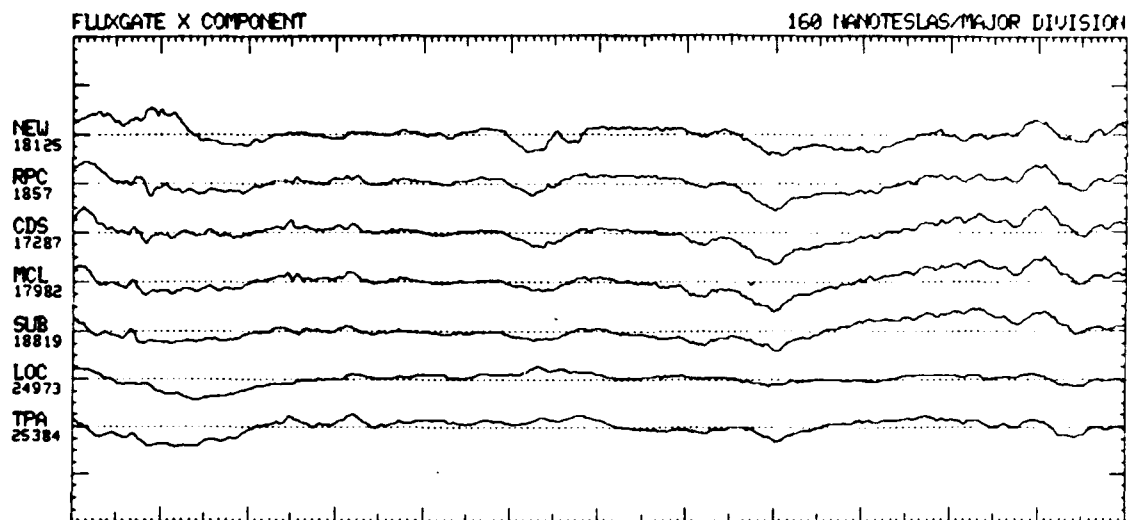


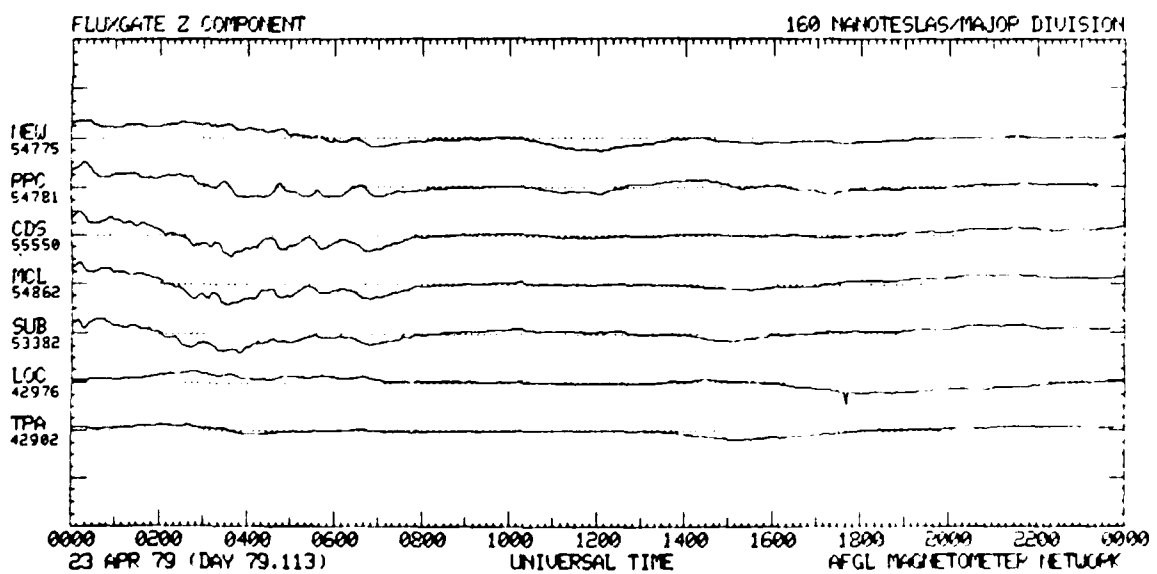
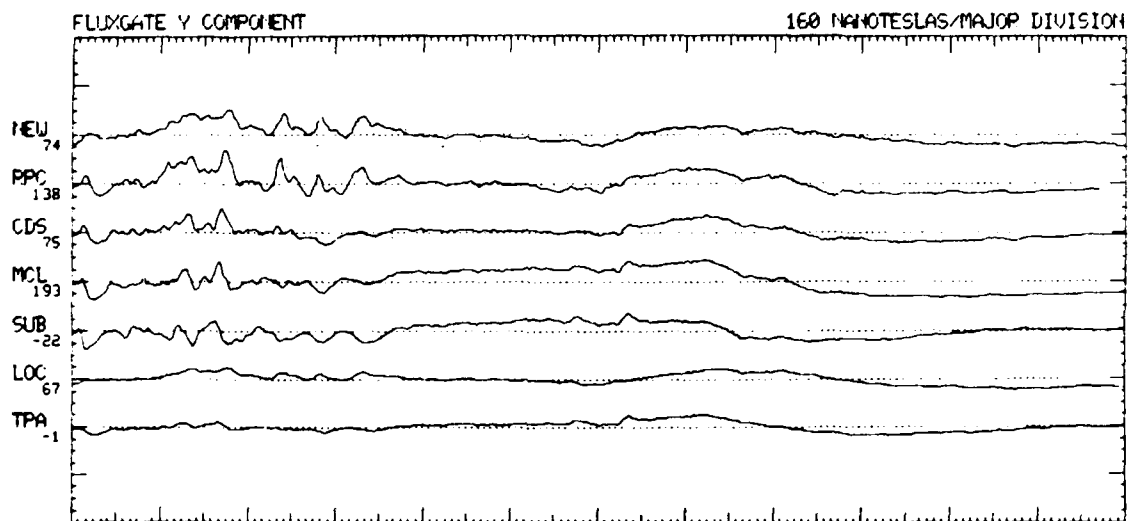
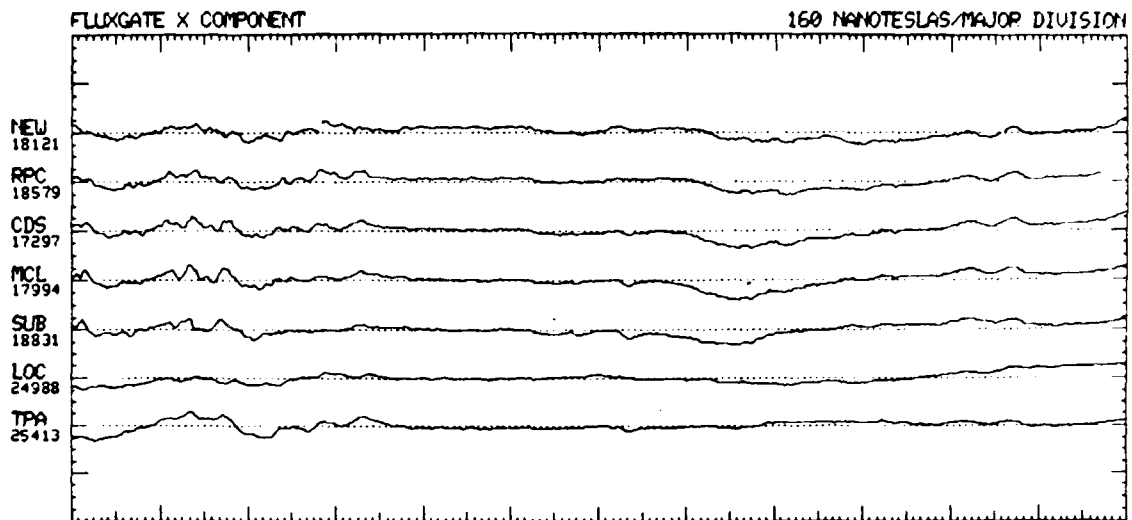


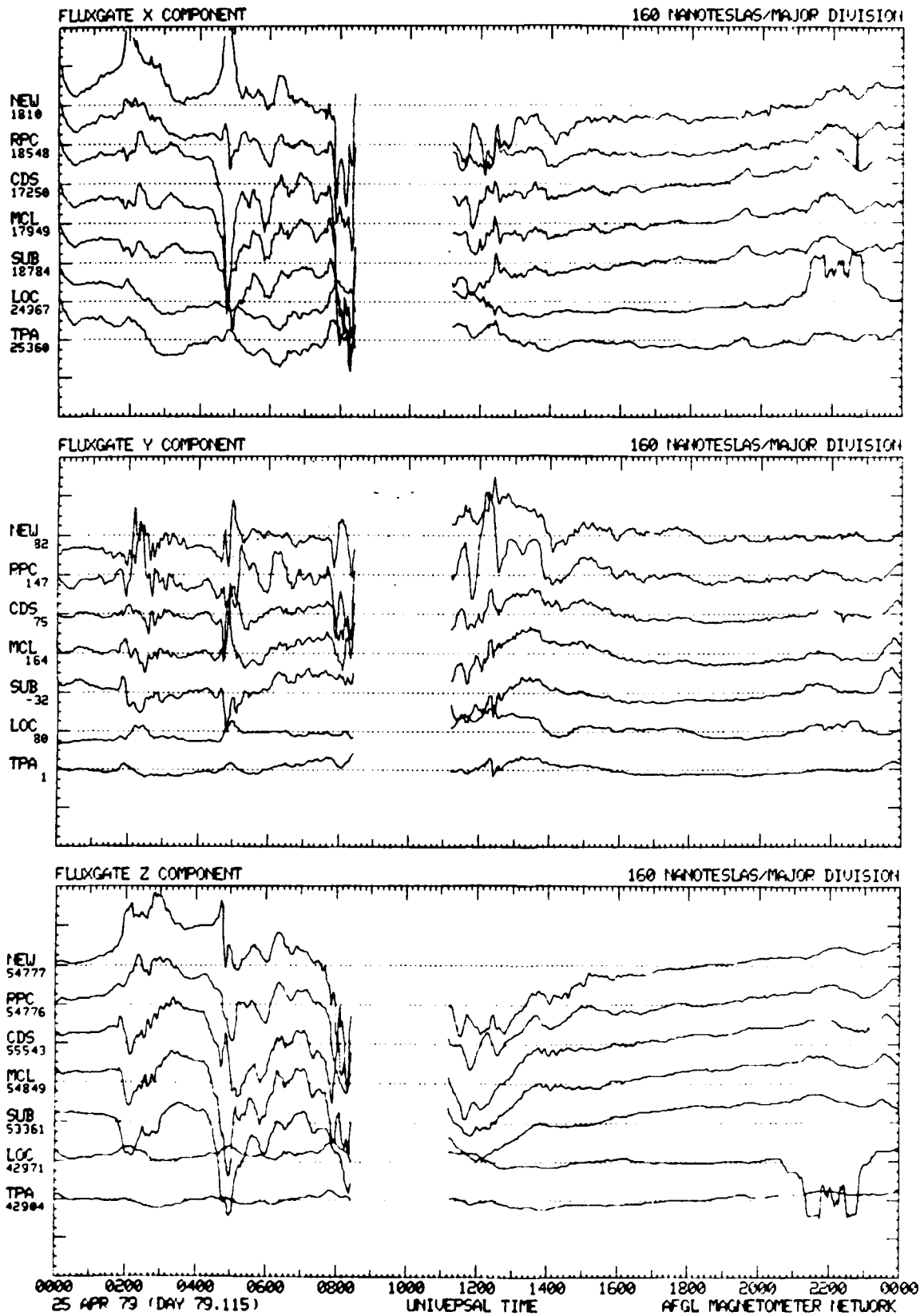


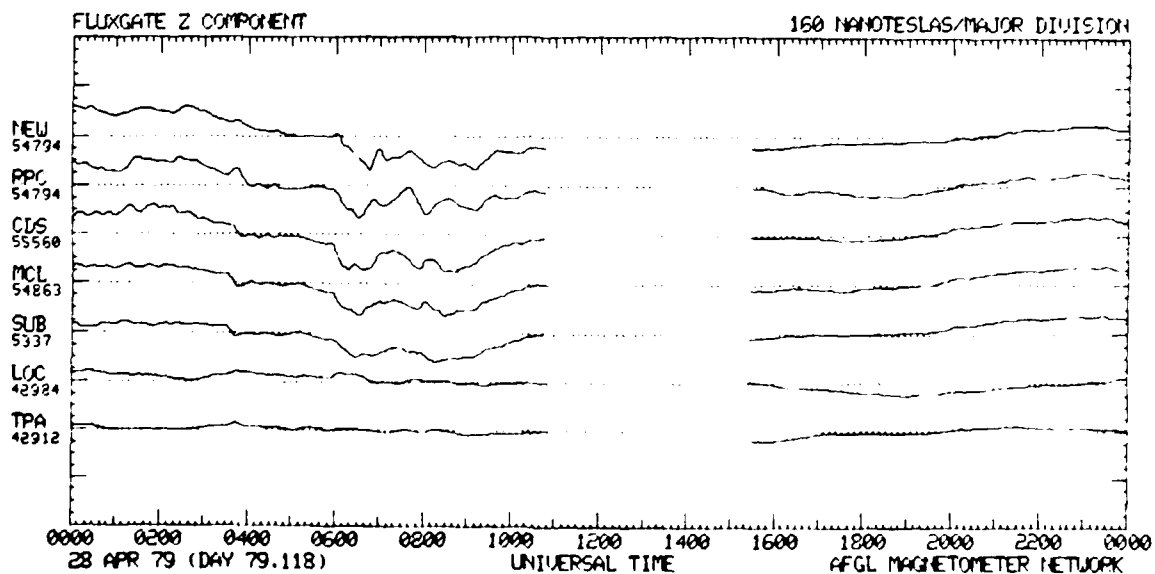
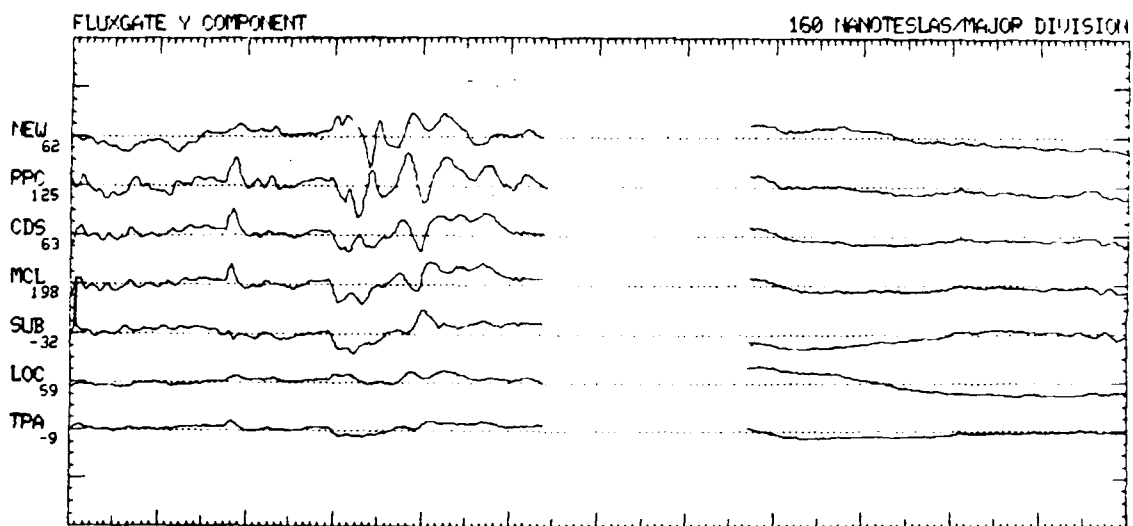
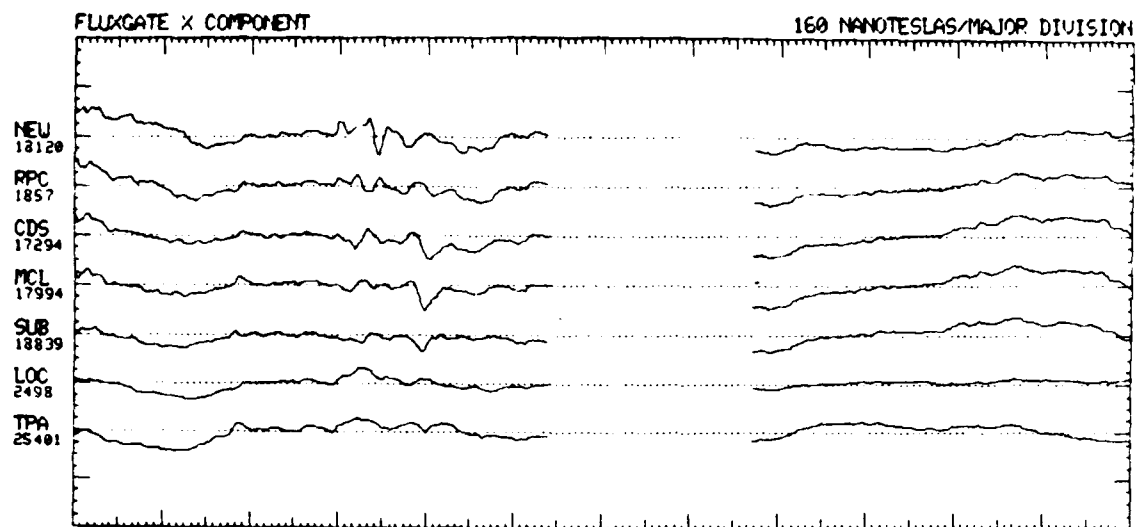








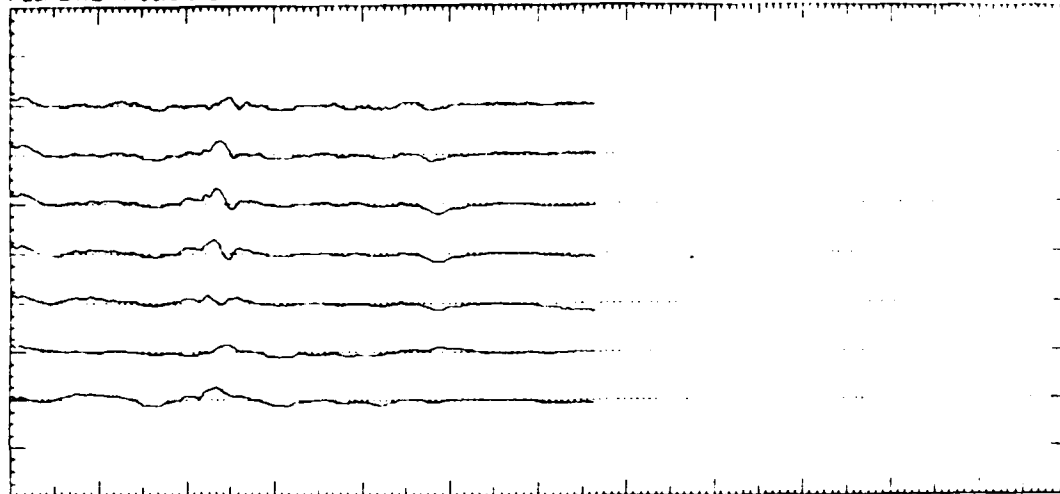




FLUXGATE X COMPONENT

160 NANOTESLAS/MAJOR DIVISION

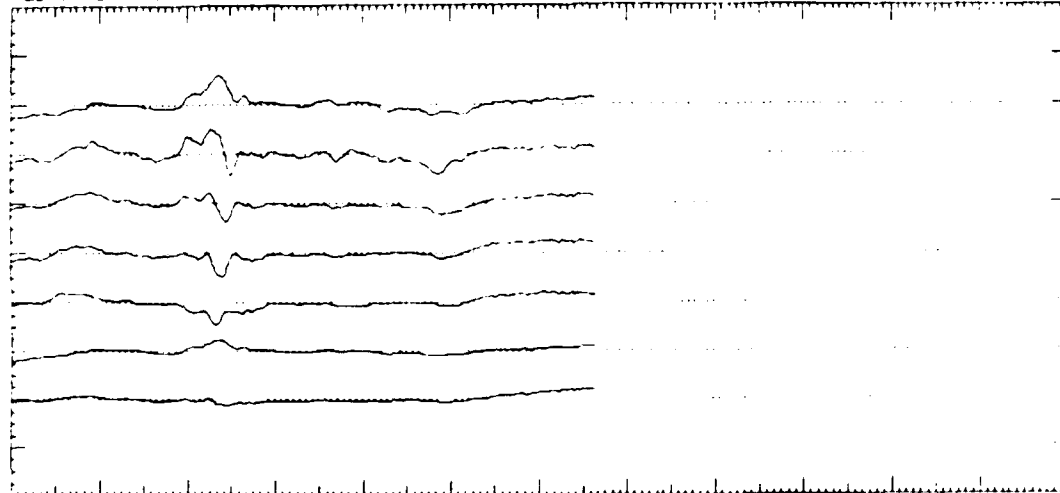
NEW
18153
PPC
13595
CDS
17309
MCL
13008
SUB
1884
LOC
25004
TPA
25420



FLUXGATE Y COMPONENT

160 NANOTESLAS/MAJOR DIVISION

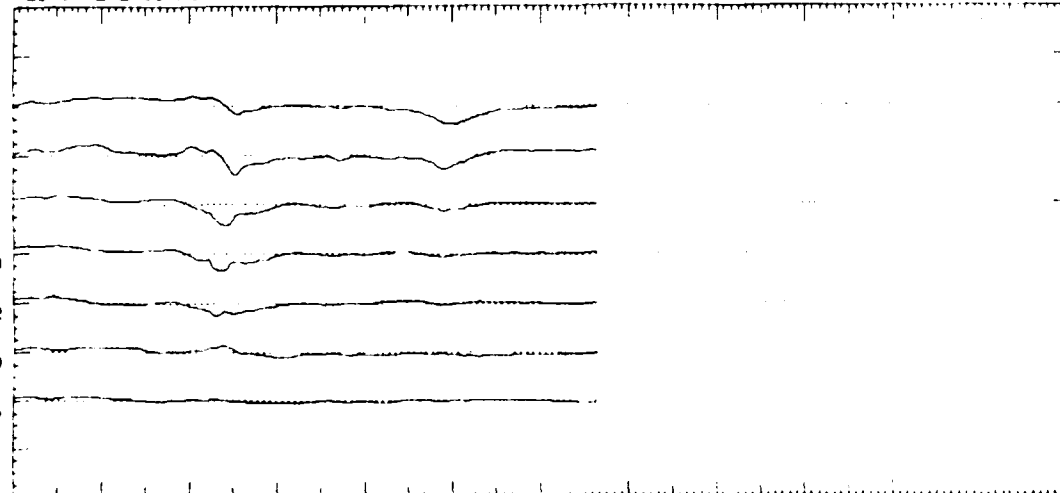
NEW
73
PPC
143
CDS
73
MCL
223
SUB
-14
LOC
70
TPA
4



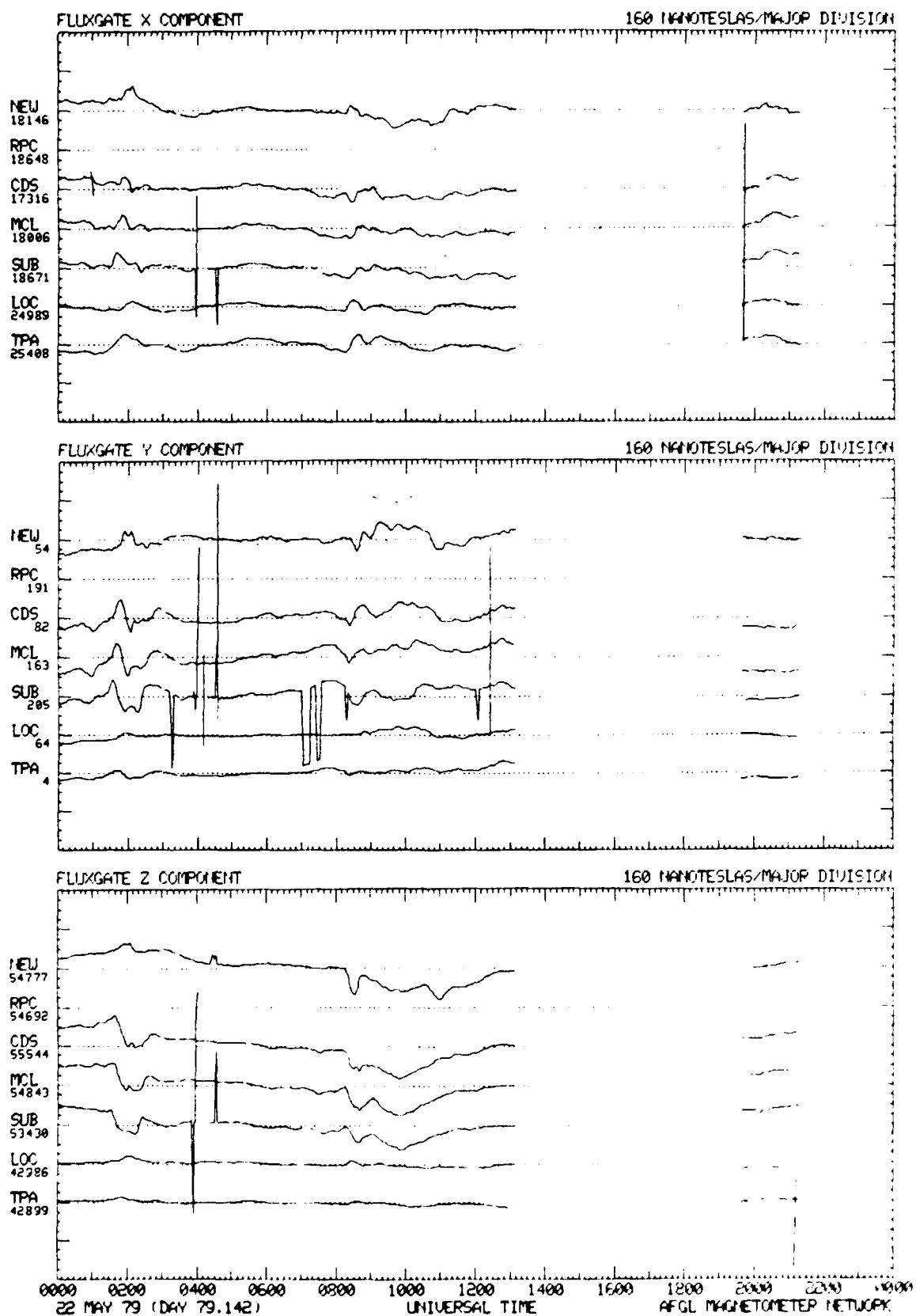
FLUXGATE Z COMPONENT

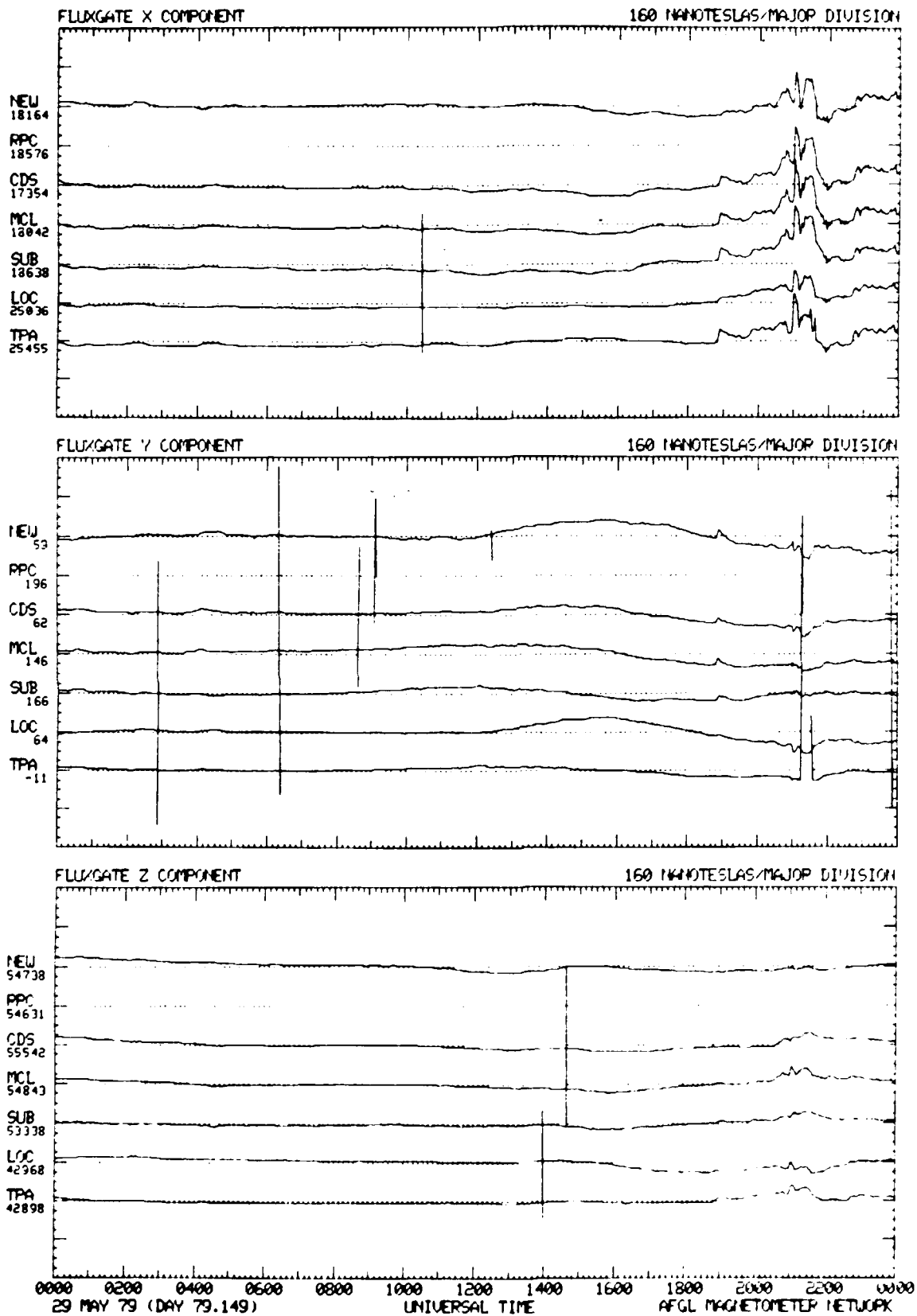
160 NANOTESLAS/MAJOR DIVISION

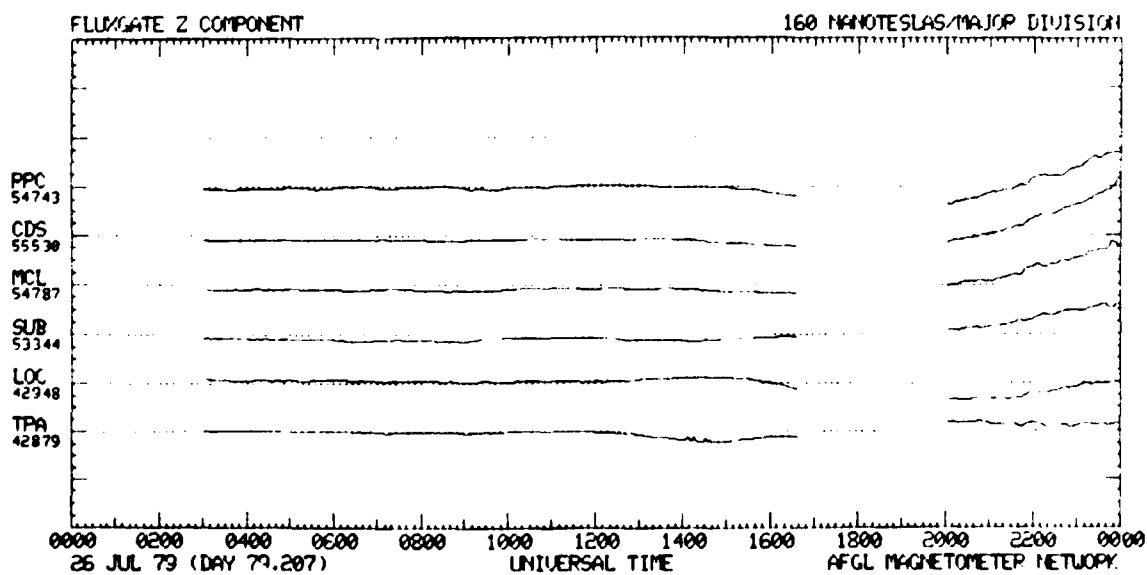
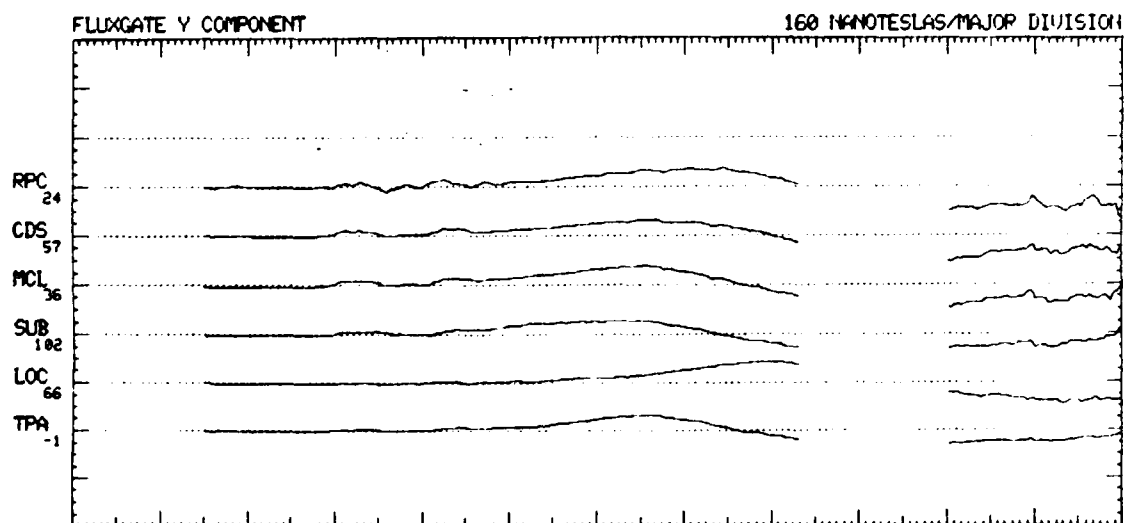
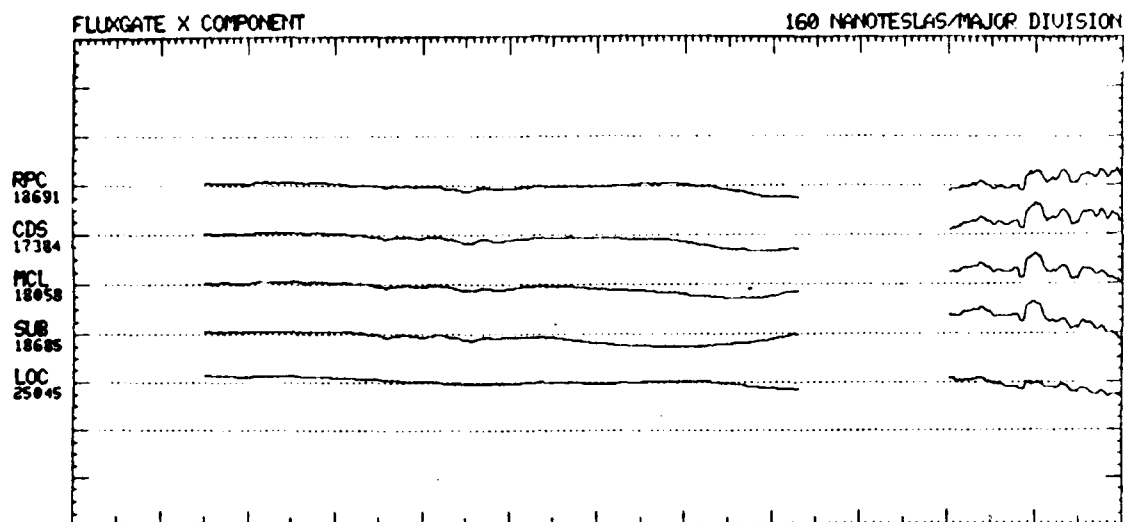
NEW
54777
PPC
54775
CDS
55546
MCL
54853
SUB
53372
LOC
42389
TPA
42906



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 2400
01 MAY 79 (DAY 79.121) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK



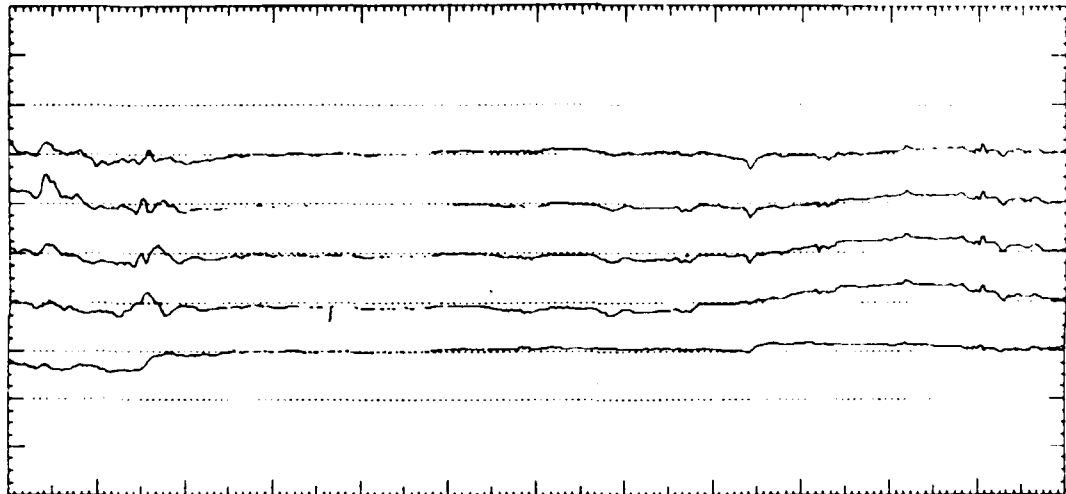




FLUXGATE X COMPONENT

160 NANOTESLAS/MAJOR DIVISION

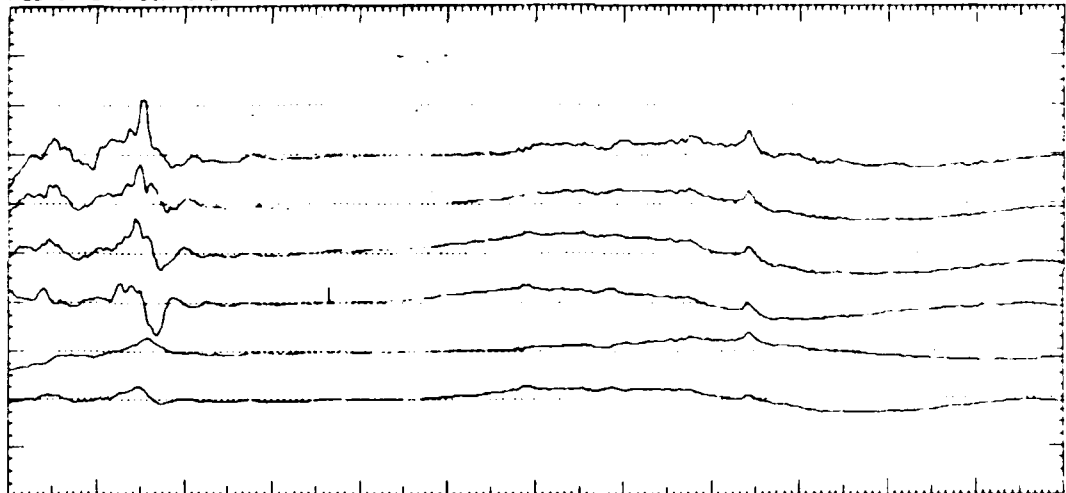
RPC
18664
CDS
17365
MCL
18038
SUB
18671
LOC
25019



FLUXGATE Y COMPONENT

160 NANOTESLAS/MAJOR DIVISION

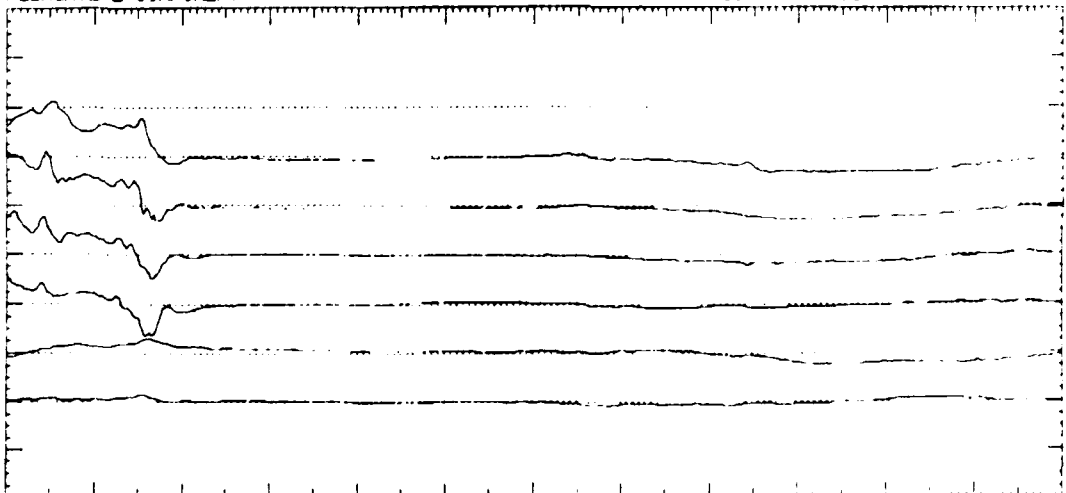
RPC
27
CDS
63
MCL
44
SUB
99
LOC
63
TPA
0



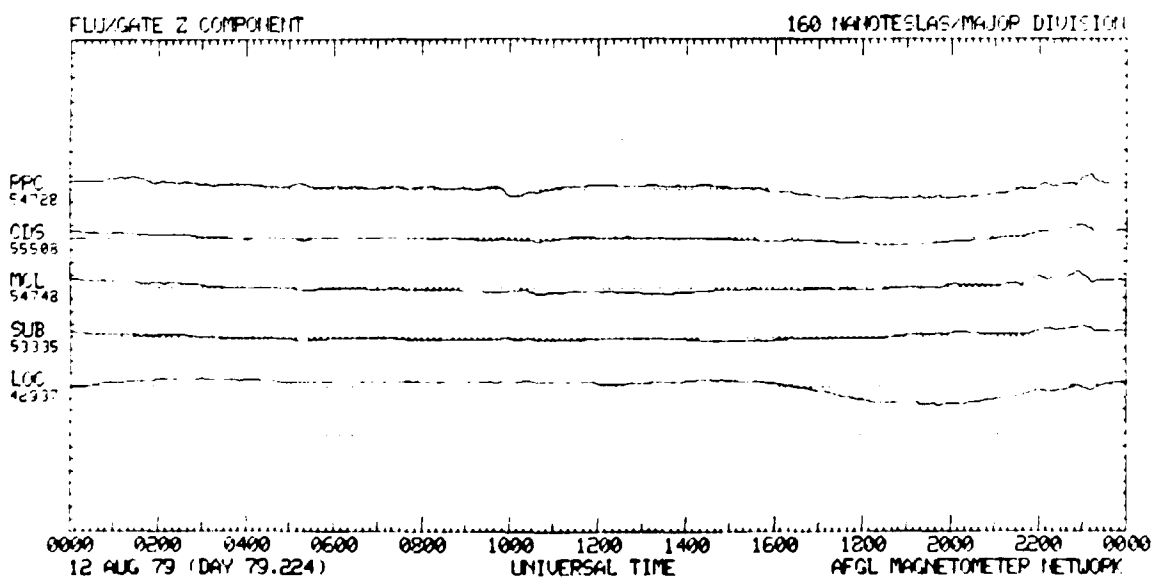
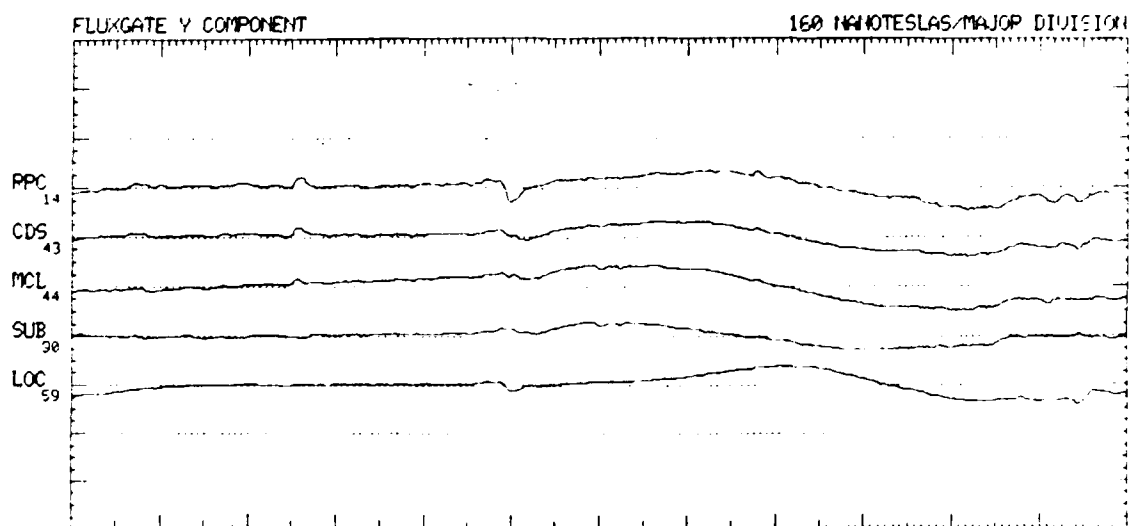
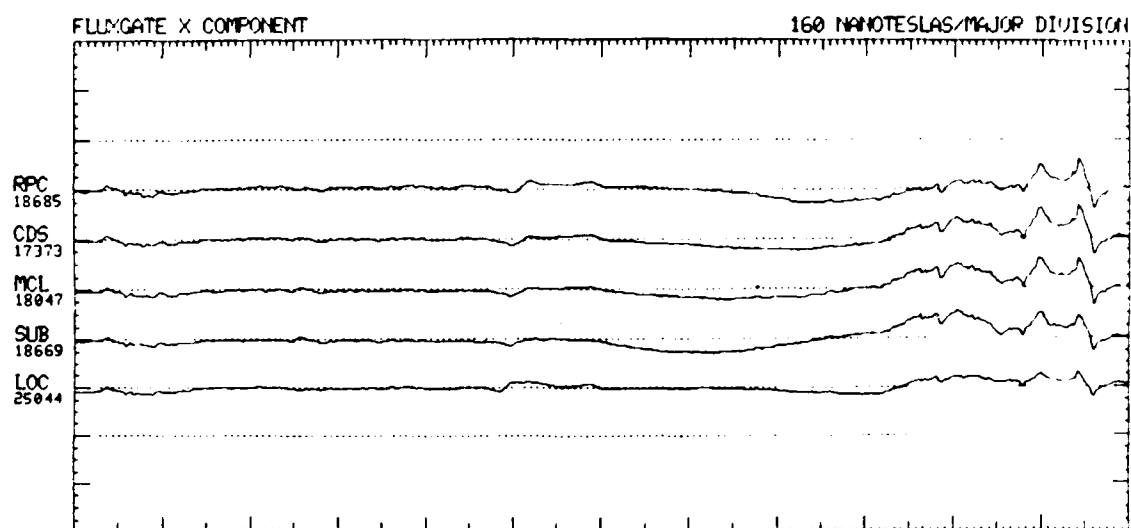
FLUXGATE Z COMPONENT

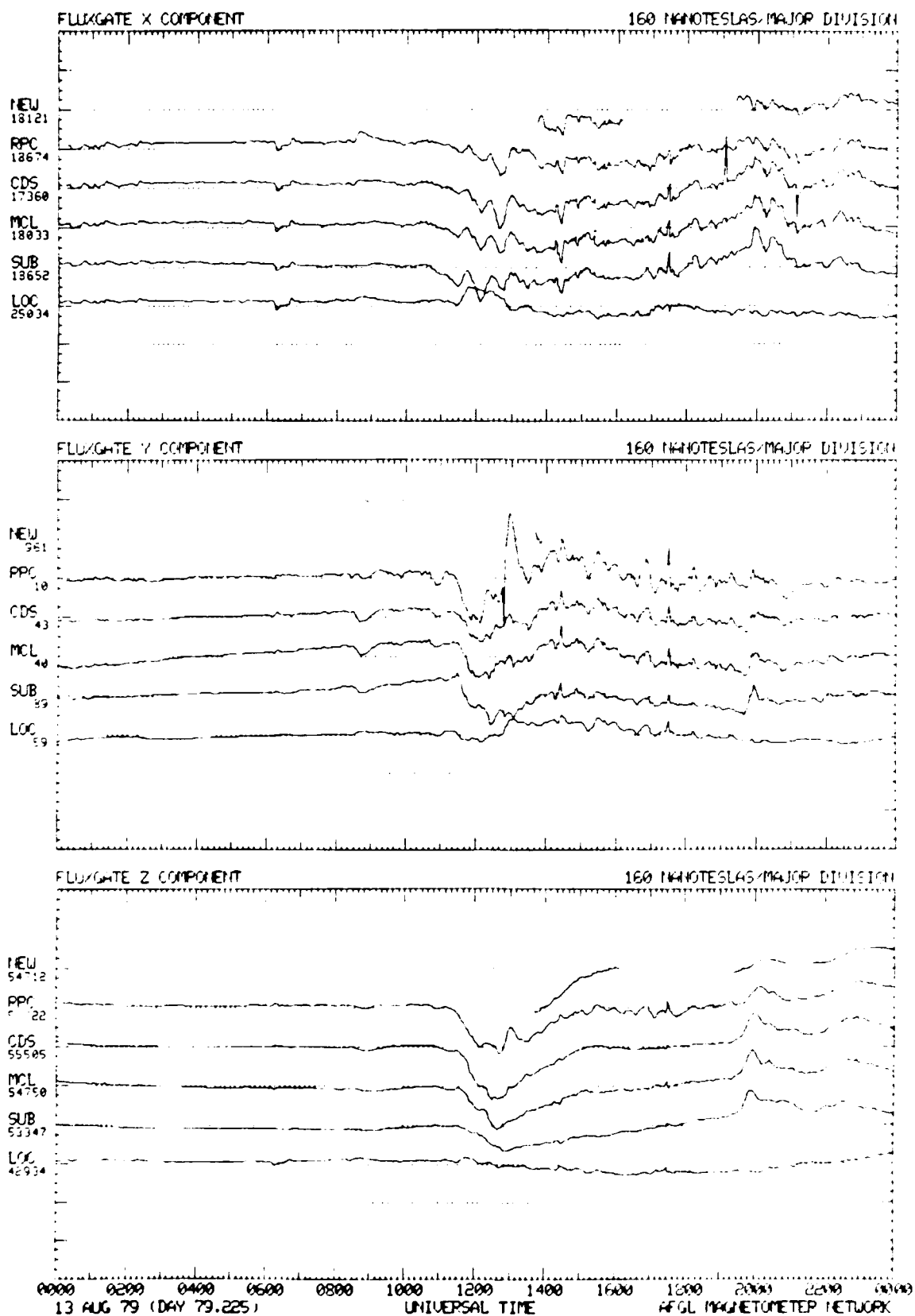
160 NANOTESLAS/MAJOR DIVISION

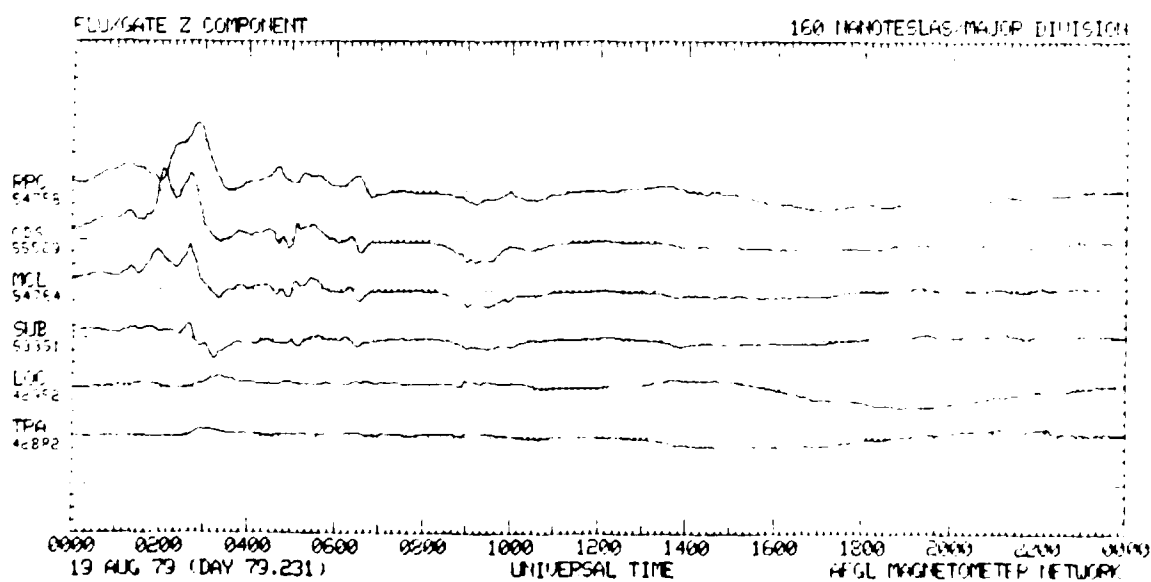
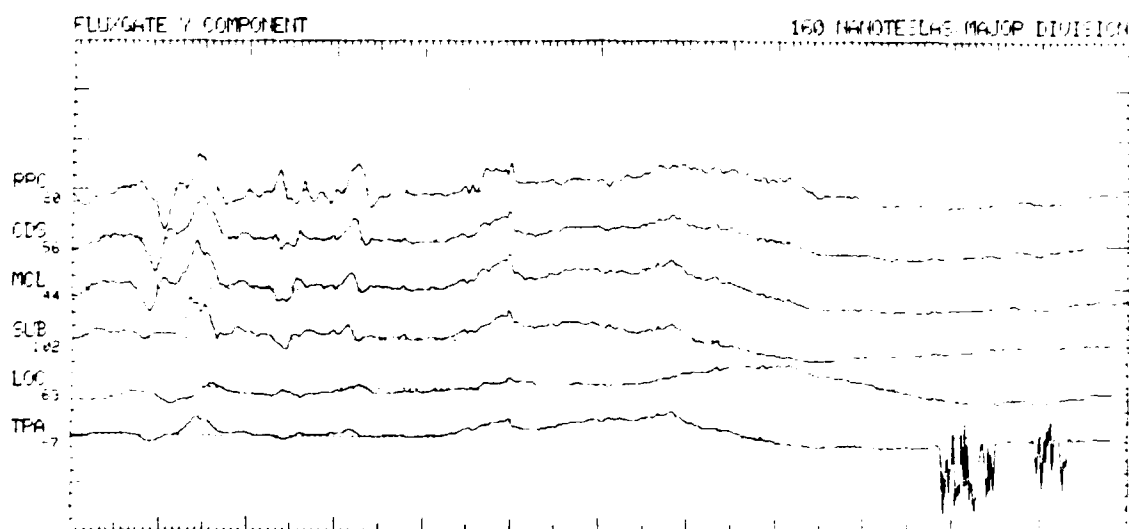
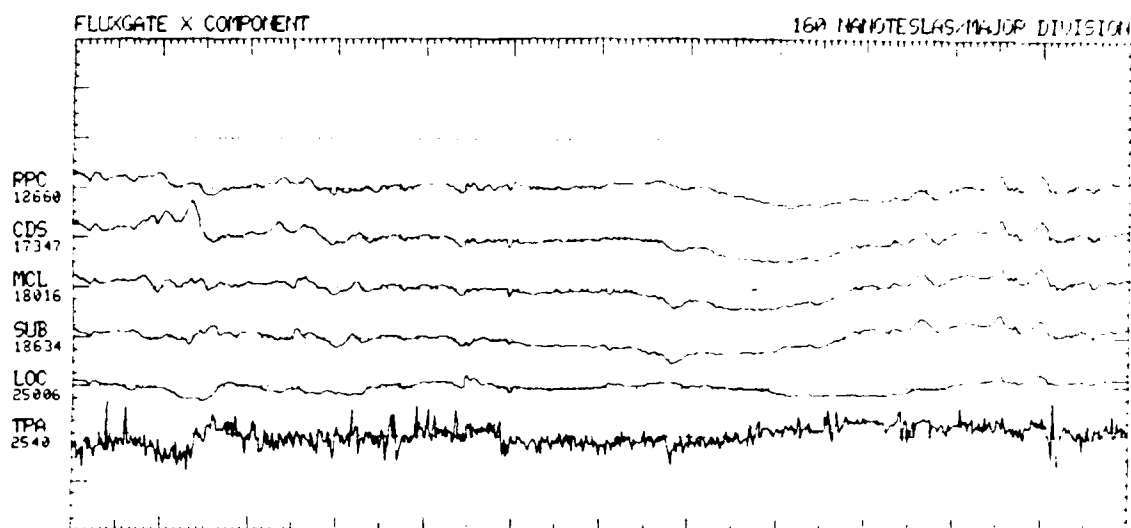
RPC
54753
CDS
55542
MCL
54788
SUB
5334
LOC
42956
TPA
42894

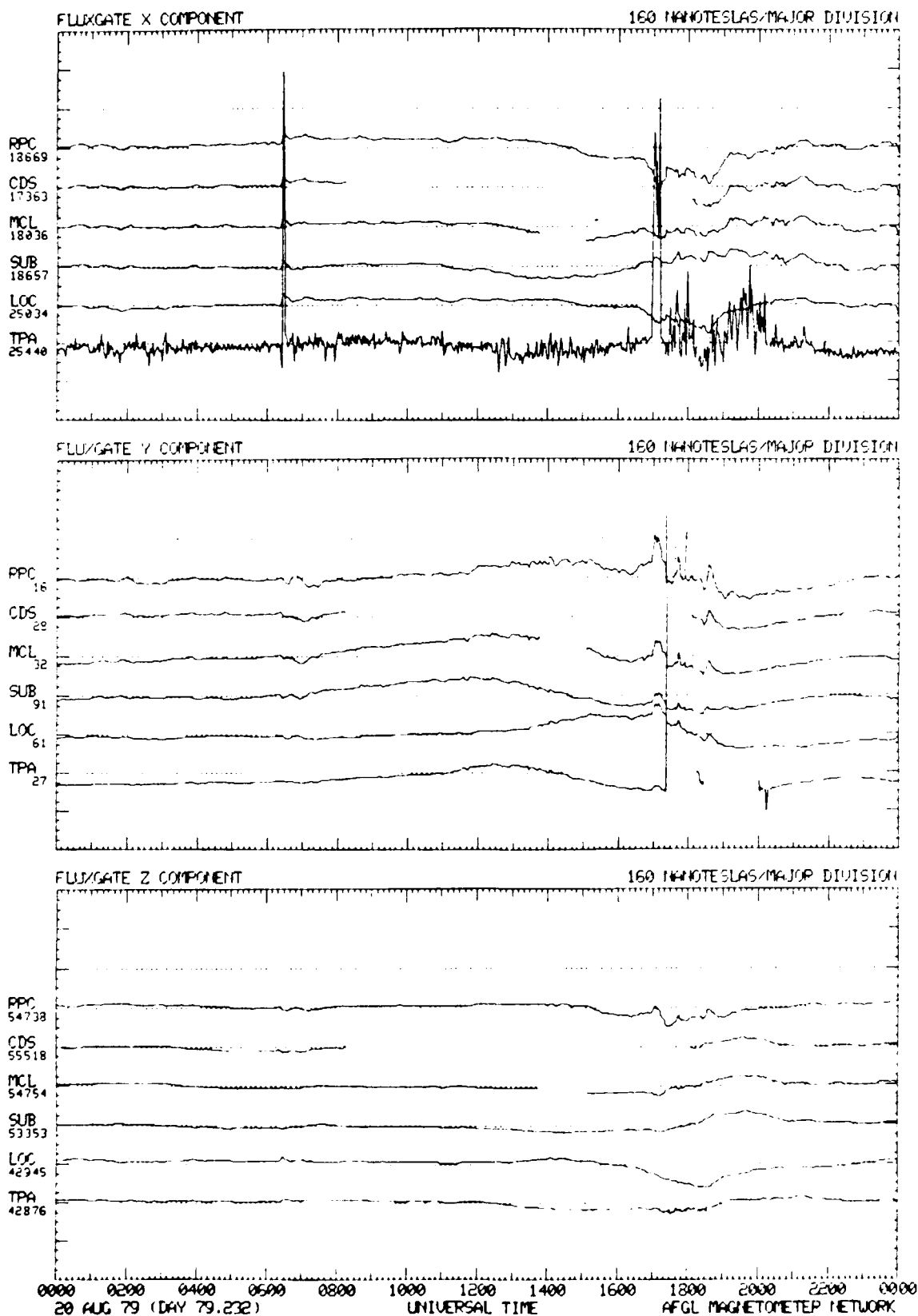


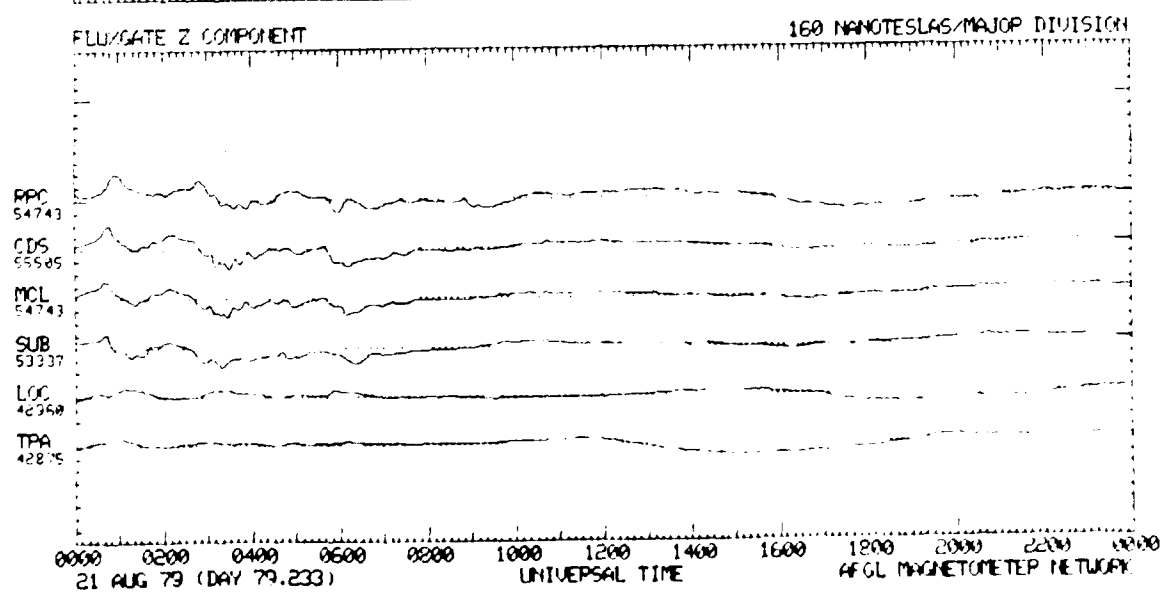
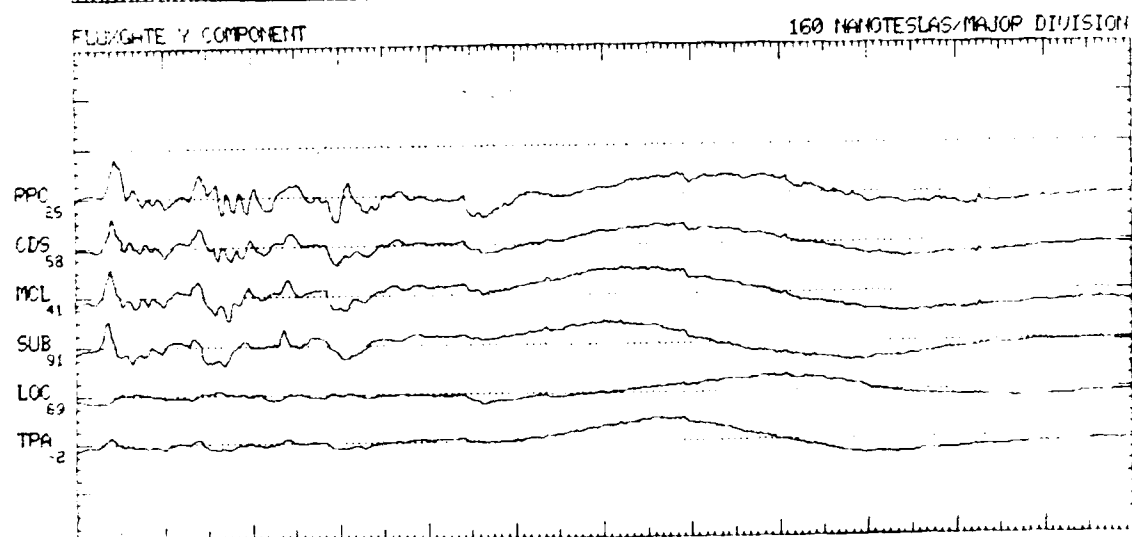
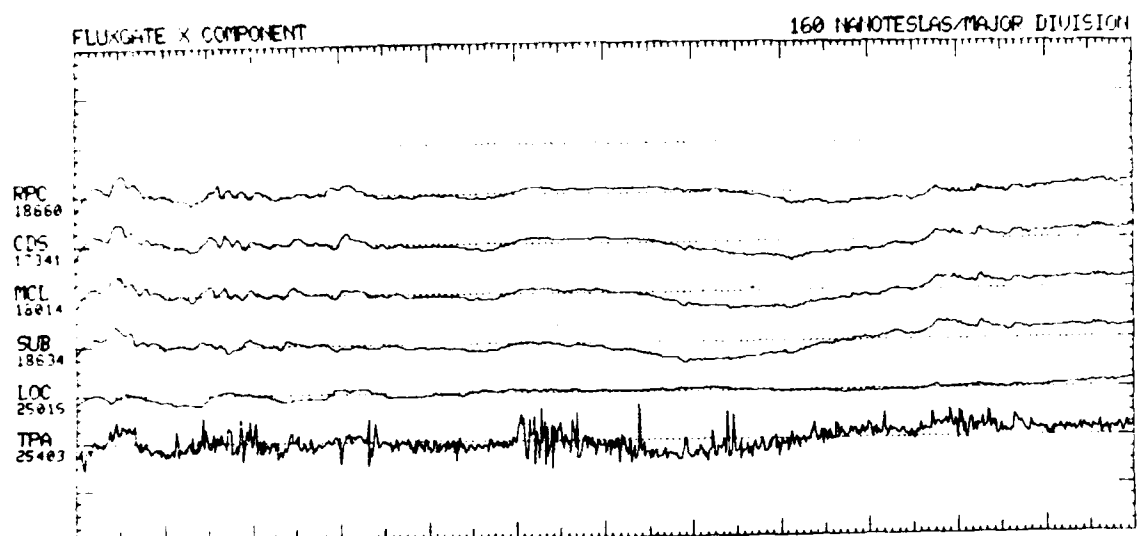
0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 2400
27 JUL 79 (DAY 79.208) UNIVERSAL TIME AFGL MAGNETOMETER NETWORK

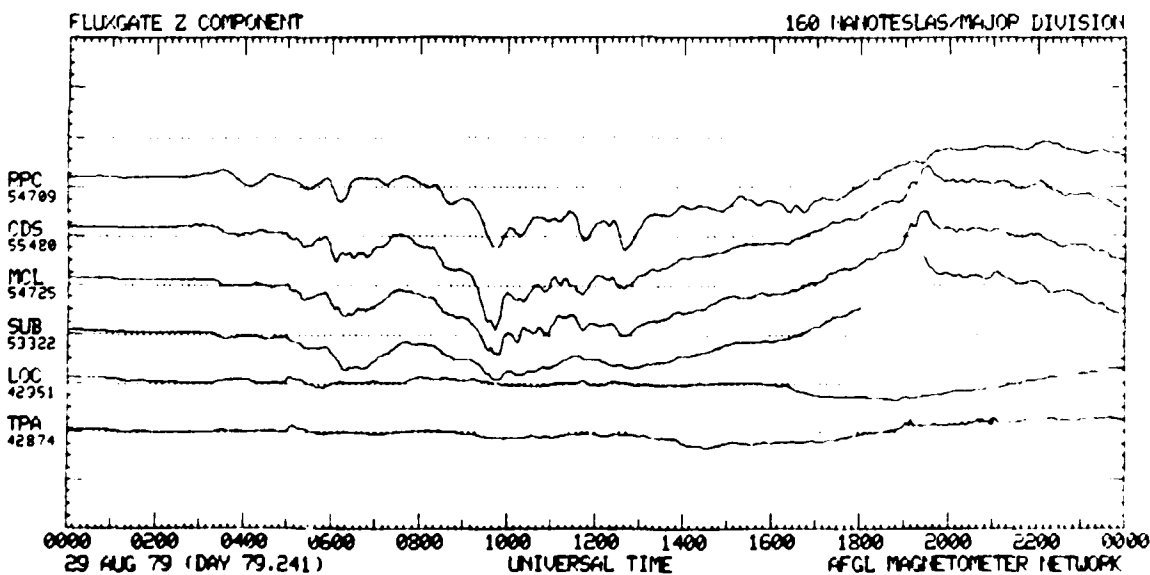
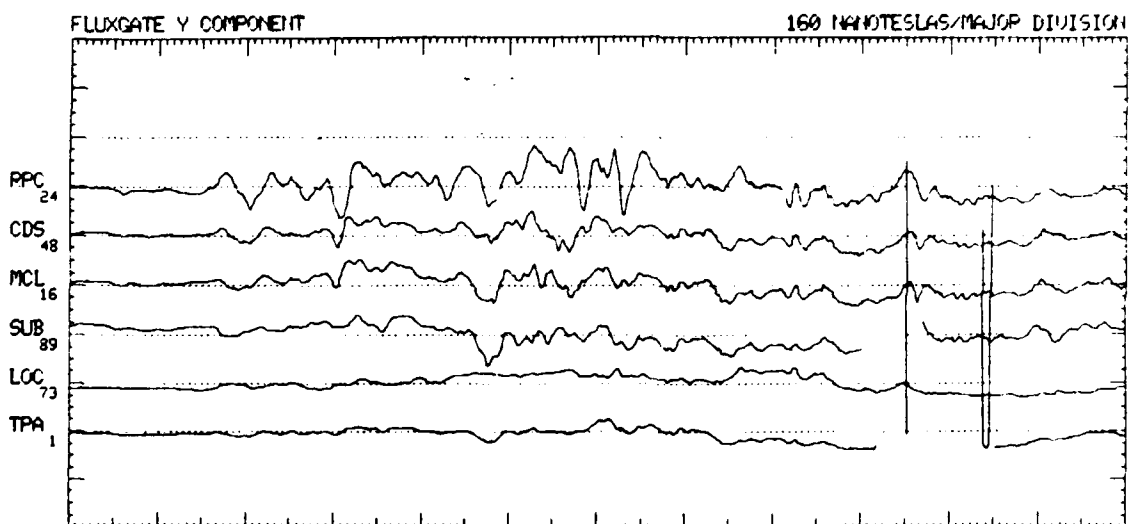
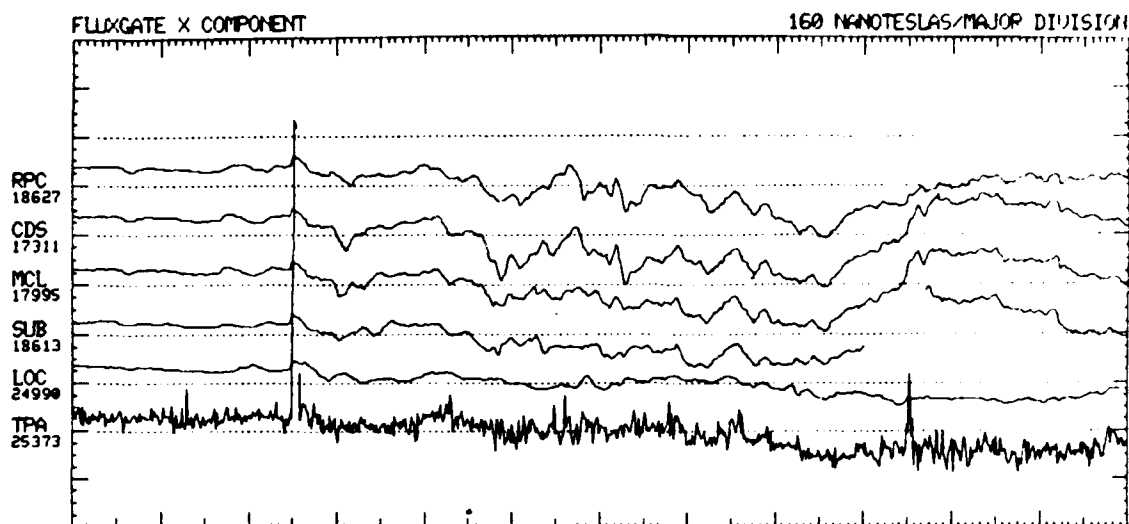


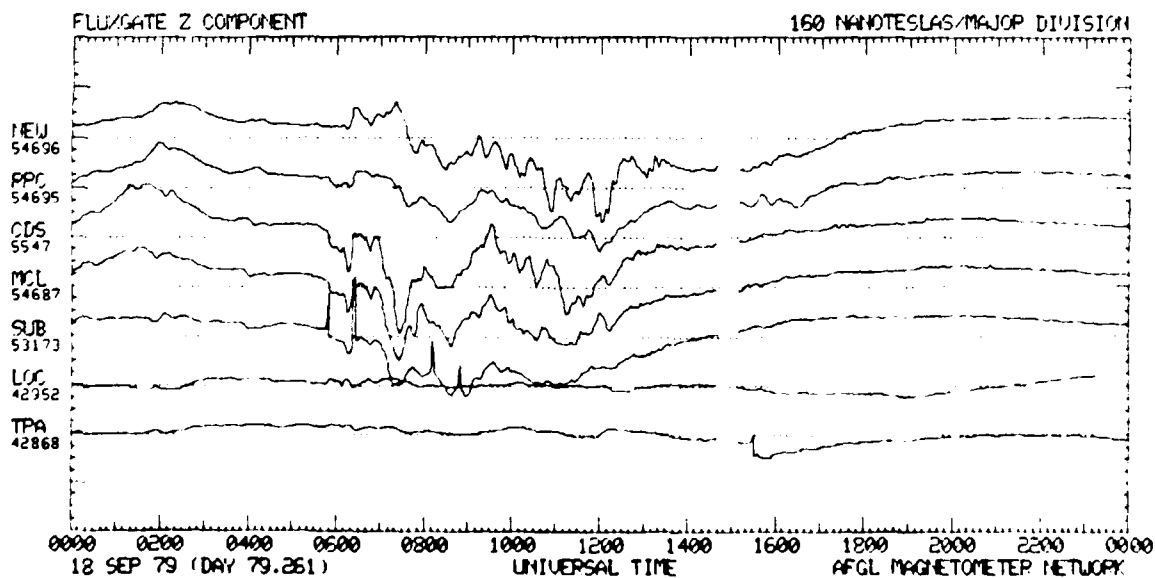
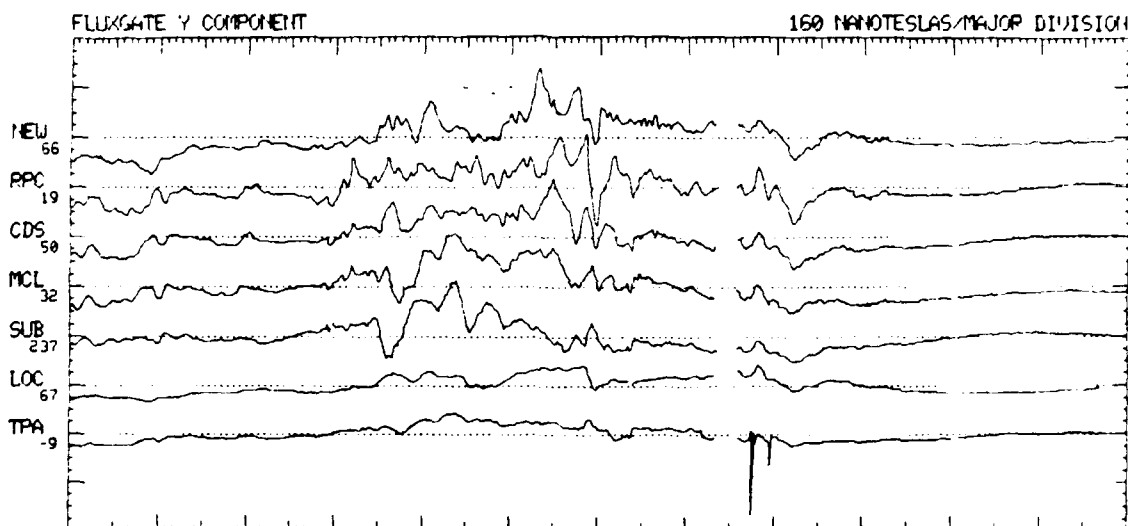
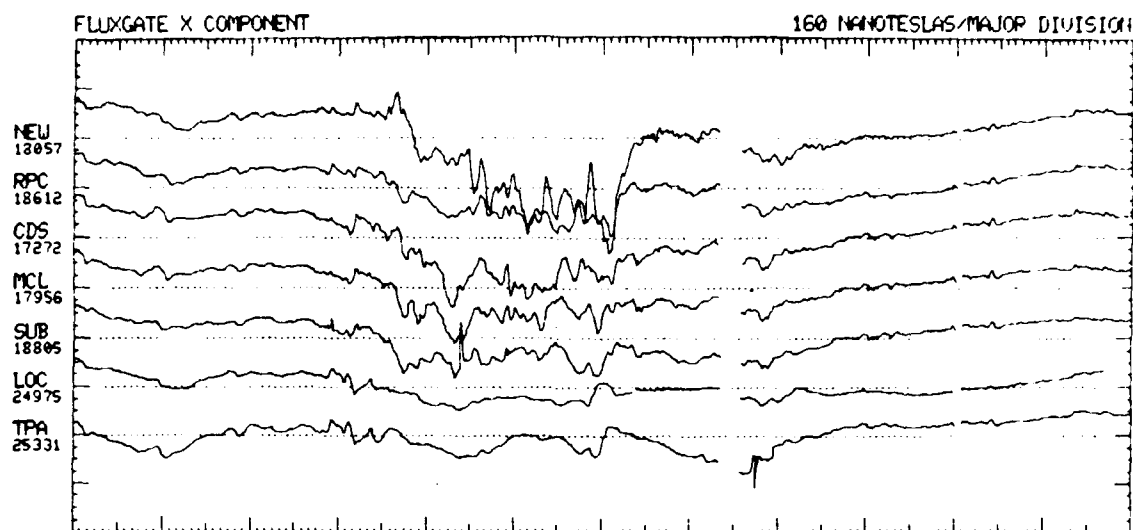


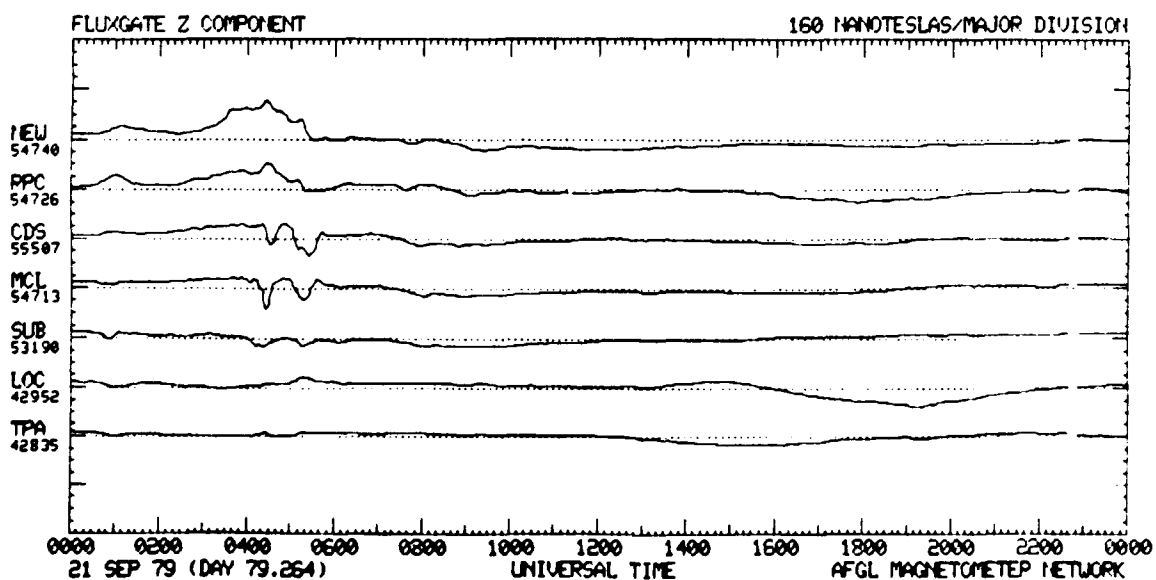
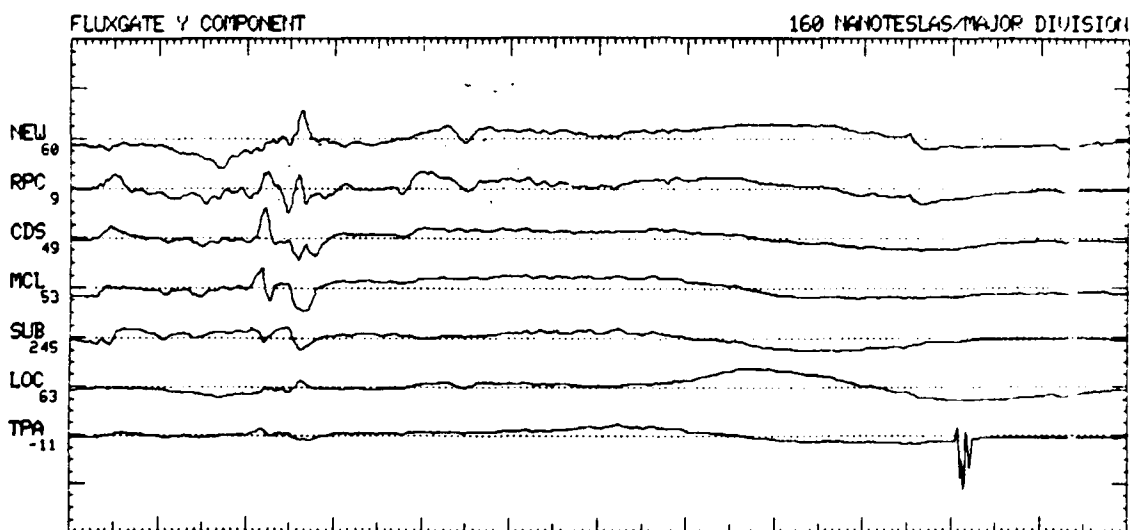
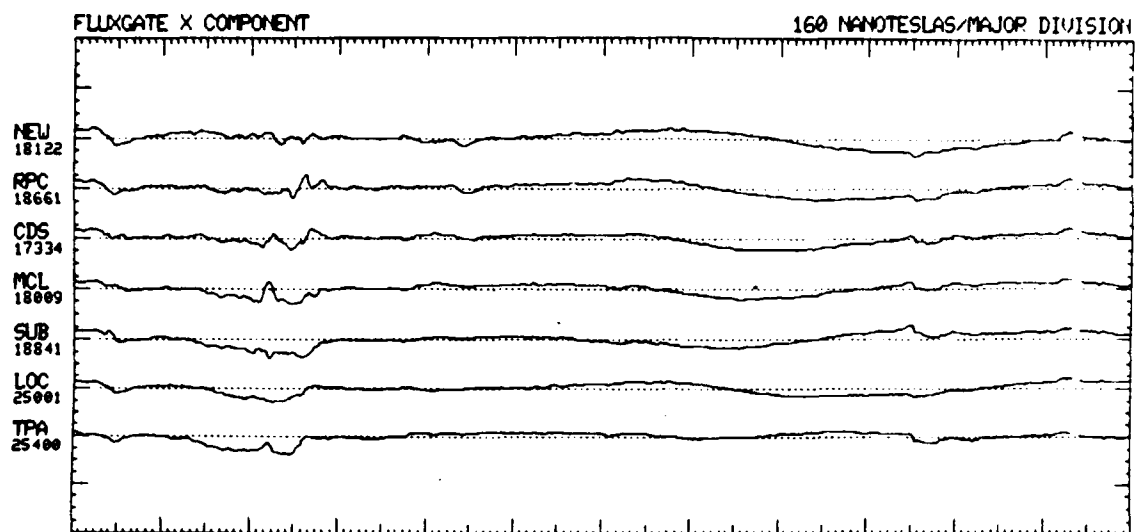


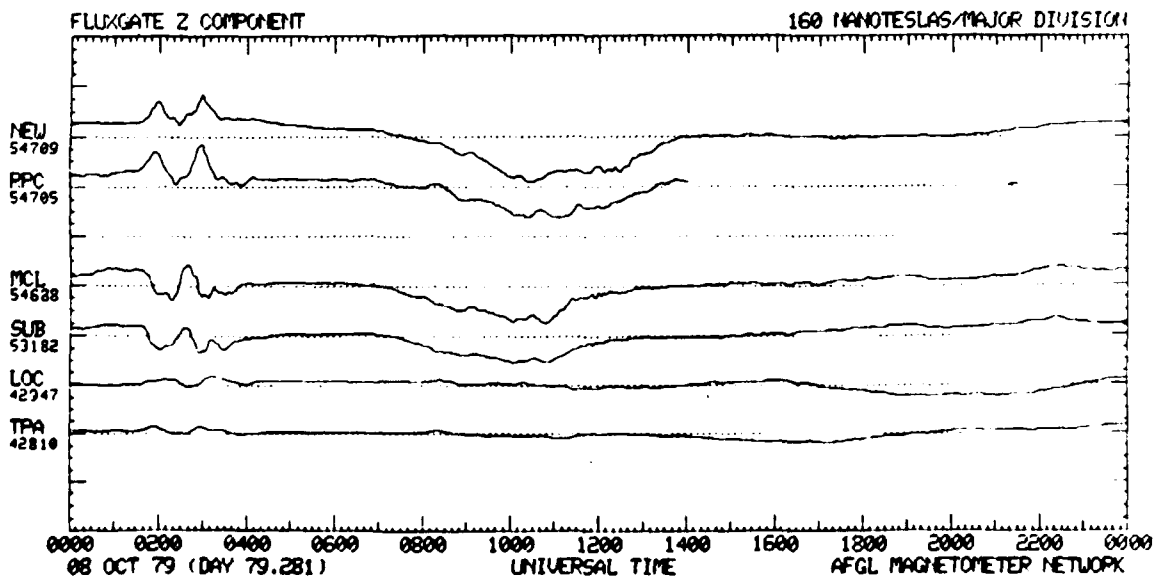
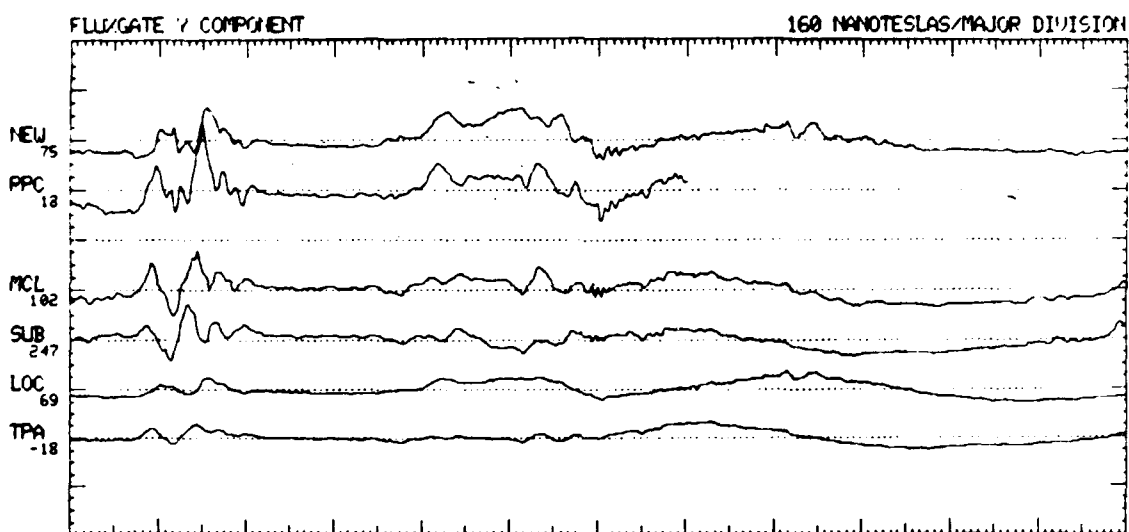
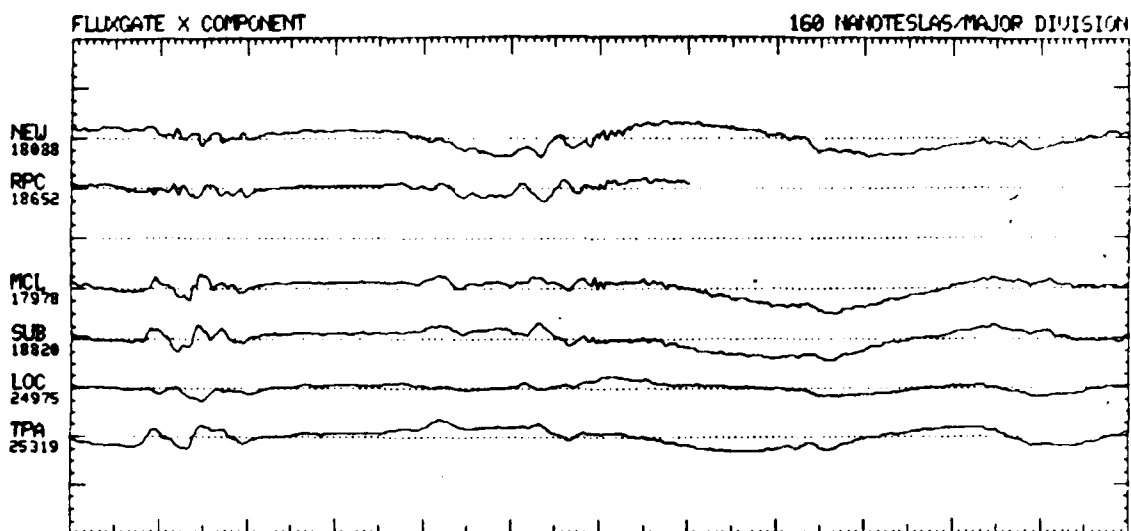


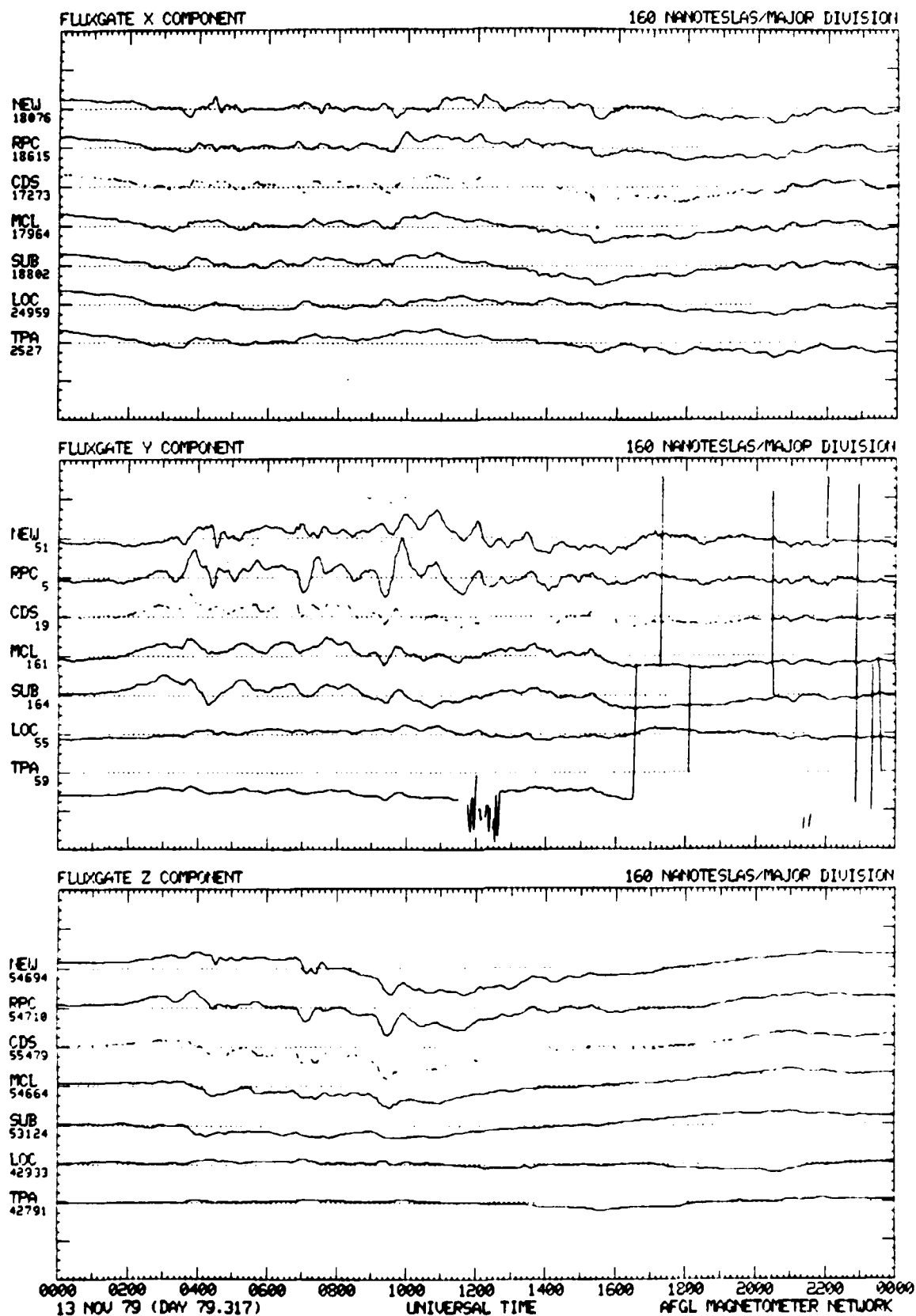








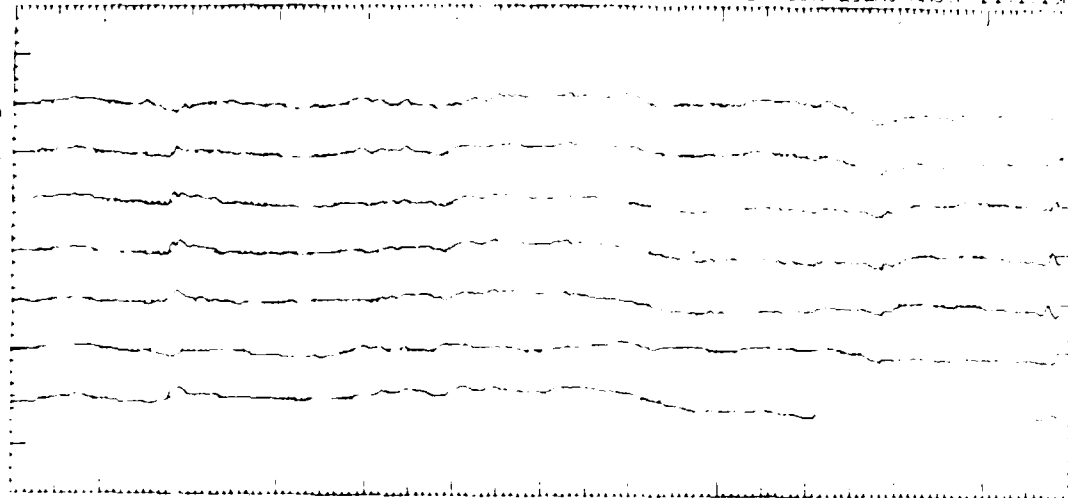




FLUXGATE X COMPONENT

160 NANOTESLAS-MAJOR DIVISION

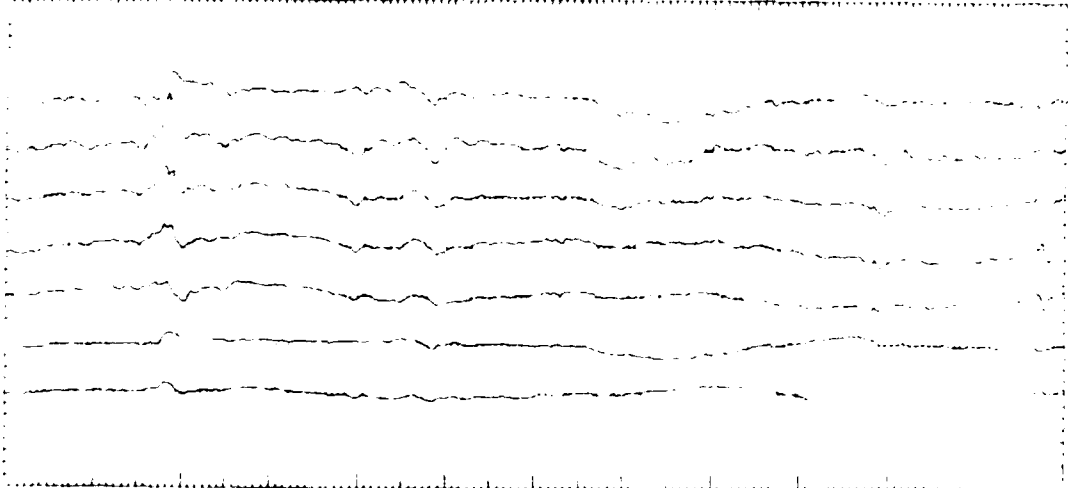
NEU
18083
RPC
13022
CDS
17256
MCL
17954
SUB
18627
LOC
24961
TPA
25388



FLUXGATE Y COMPONENT

160 NANOTESLAS-MAJOR DIVISION

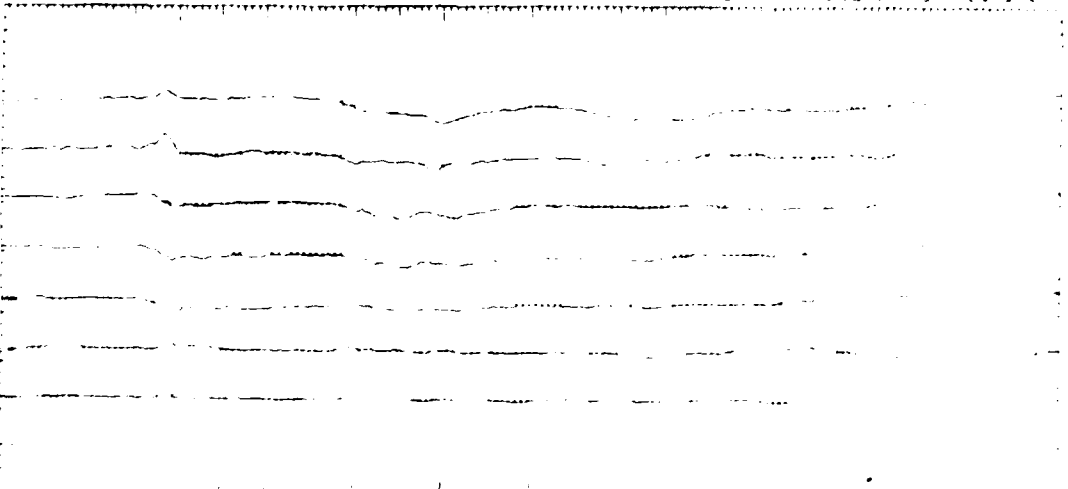
NEU
RPC
CDS
MCL
SUB
LOC
TPA



FLUXGATE Z COMPONENT

160 NANOTESLAS-MAJOR DIVISION

NEU
54725
RPC
54724
CDS
54723
MCL
54722
SUB
54721
LOC
54720
TPA
54719



0000 0200 0400 0600 0800 1000 1200 1400 1600 1800 2000 2200 2400
29 DEC 79 (DAY 79.363)

UNIVERSAL TIME

44 GL MAGNETOMETER NETWORK

END

12-86

DTIC